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An Address ON INFUNDIBULIN:

*THE INDICATIONS FOR ITS USE IN SURGICAL AND OBSTETRICAL PRACTICE.**

BY

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I WAS much pleased to receive an invitation to address this society on the active principle of the posterior lobe of the pituitary body, for it is now sixteen years since I was responsible for the introduction into clinical practice of this preparation, to which I gave the name "infundibulin."[1] Almost immediately it came into general use throughout the civilized world. Watson, then professor of obstetrics in the University of Toronto, writing in 1913, said:

> "It seldom happens that a new drug or remedy comes into universal use in such a short space of time as has been the case with pituitary extract in obstetrical practice. Since it was first used . . . in 1909 it has been employed in practically every obstetrical clinic throughout this continent and in Britain and Europe."[2]

In these circumstances we may assume that the interval of sixteen years which has elapsed since infundibulin was first employed has been long enough to enable us, not only correctly to appraise the value of this remedial agent in clinical practice, but also to establish the indications for, and contraindications to, its use. During this period the practical applications have been so considerably extended that I was not surprised to be asked to confirm or refute the prevalent belief that the potent properties of this extract are frequently, and quite unconsciously, abused in obstetrical difficulties. I shall deal with this important matter in due course, and shall endeavour to be as definite as possible in the opinions expressed, for it may be that some guidance on the matter is desired by the conscientious practitioner in view of the very general employment of infundibulin, and, possibly, the inaccessibility of the literature in which the chief indications and contraindications have been specifically stated.

HISTORICAL.

The observation by Oliver and Schafer[3] in 1895 that an extract of the whole pituitary had a pressor effect upon the blood pressure for some time escaped further recognition and investigation, being overshadowed by the coincidental statement of these investigators that the extract made from the suprarenals was more powerful in this respect. In 1898 Howell[4] demonstrated the fact that it is the extract of the pars posterior (pars intermedia and pars nervosa) alone that has a pressor action; that prepared from the pars anterior has no such characteristic. Subsequently to 1898 occasional papers appeared in physiological journals dealing for the most part with the action of infundibulin on the cardio-vascular and renal systems.

During the years 1907 and 1908 Hick and I[5] conducted a series of experiments, an account of which was published early in 1909. Later in the same year the clinical paper, to which reference has already been made, was published. From 1910 onwards there was a deluge of Continental communications on the subject, but practically no new ground was broken. To-day infundibulin is an established agent for the relief of many serious conditions; but before we consider these a brief survey of our physiological knowledge concerning the substance itself may not be out of place.

THE ORIGIN, NATURE, AND DESTINATION OF INFUNDIBULIN.

It will be remembered that all the epithelial elements of the pituitary arise from the ectodermal cells of that upward prolongation of the angle made by the roof of the stomodeum and the pharyngeal membrane, which has come to be known as Rathke's pouch. The hollow neural process of the diencephalon—the infundibulum—descends to meet this pouch, and is closely applied to the epithelium without the intervention of connective tissue.

The original cavity of Rathke's pouch forms the cleft of the pituitary body, and from the anterior side gland-like diverticula are developed. In this way the pars anterior is formed. The cells on the posterior aspect of the pouch, adjacent and adherent to the pars nervosa, or infundibulum, constitute the pars intermedia. The cells of the pars intermedia have therefore the same origin as those of the pars anterior.[7] This is important; and it is probable that the secretion of the cells of the pars intermedia, like that of the cells of the pars anterior, has no pressor action. The pars posterior, as we have seen, consists of the pars intermedia and pars nervosa; and since separation at the cleft is a simple matter the whole posterior lobe is used as the material from which infundibulin is extracted commercially.

Nevertheless, one of the most interesting problems connected with infundibulin is its origin and destination. Several observers[6 7] have stated that it is possible in the laboratory more or less completely to separate the pars intermedia from the pars nervosa, and that an extract made from the nervous portion gives all the typical reactions of infundibulin, whereas one made from the cells of the pars intermedia is comparatively inert. Other observers[8] have obtained exactly contrary results; but most investigators have confirmed the work of Osborne and Vincent. This subject and the inherent difficulties surrounding the complete separation of the two parts are discussed in my work on the pituitary.[9]

It may, however, be accepted that although the pars intermedia has a definite secretion of its own, which is sometimes granular, sometimes colloid, and about which we know very little, yet, on the other hand, some of the adjacent cells of the pars intermedia and their secretion pass into the pars nervosa—which is structurally composed of neuroglial cells and fibres—and there undergo alteration: the nuclei disappear from the cells, the cytoplasm forms a mass of granular substance, resembling the aggregations of granular secretion formed from the cells in the pars intermedia, and infundibulin is produced.

According to Herring[10] and others, the pars intermedia cells and the granular secretion pass through the pars nervosa to the central cavity, if there be one,* but in any case reach the third ventricle. I have never been able, on the evidence adduced, to satisfy myself of this as an inevitable or even usual sequence. The fact that pressor substances have been found in the cerebro-spinal fluid is not conclusive. My own view is that the secretion from the pars intermedia which passes into the pars nervosa is altered there, and normally is taken up as fully formed infundibulin by the numerous thin-walled vessels present in the pars nervosa. The chemical nature of infundibulin has not been established.

Pressor Action of Infundibulin.

Infundibulin has a most characteristic pressor action on all involuntary muscle, including the heart muscle; moreover, it affects the involuntary muscle fibres that may be scattered through such organs as the spleen and mammary glands. The effects with which we are immediately concerned are those produced on the cardio-vascular system, the alimentary tract, the uterus, and the bladder. A feature common to all is that the result obtained is more pronounced when there is atony of the muscle. Further, it is an interesting fact that the pressor action of infundibulin is maintained for a longer period of time than is the case with suprarenalin.

METHODS OF ADMINISTRATION.

The mode of administration of any drug or extract is a matter of considerable moment, yet it is surprising how thoughtless many are in regard to this matter. The method of election is based on a knowledge of certain fundamental particulars; for example, it is useless to give suprarenalin by the mouth, for it is destroyed by the gastric juices; on

* Delivered to the Northern Counties Medical Society, Newcastle-on-Tyne.

* The central cavity of the infundibulum persists in some mammals—for example, the cat—but is completely obliterated in many, including the primates

the other hand, we believe that these digestive secretions have no destructive action on infundibulin. Nevertheless, in surgical and obstetrical conditions in which an *immediate* pressor effect is required it would be absurd to administer pituitary extract by the mouth, although such a procedure may be useful in the treatment of metabolic disorders coming under the care of a physician.

Again, how frequently is the practice adopted of administering infundibulin hypodermically, in spite of the fact that it has been demonstrated repeatedly that the effect obtained by this method is much slower and much less pronounced than that which follows intramuscular and intravenous injections. It is probable that all the unsatisfactory results that have been reported in regard to the pressor action of infundibulin have been due to a wrong method of introduction, generally hypodermic, and to the use of badly prepared products. The former source of dissatisfaction is easily remedied in surgical and obstetrical work: the extract must always be given intramuscularly or intravenously. I find the triceps the most convenient muscle for the purpose.

Standardization of Infundibulin.

In respect of the efficiency of the preparations used therapeutically we are entirely in the hands of the manufacturing chemists, some of whom, no doubt, may shelter themselves behind the recognized difficulties of exact standardization of organic extracts of unknown composition. Still, it is certain that some preparations are comparatively inert, and others more active than the average. The liquid extract, as usually prepared, is stated to be of a strength of 20 per cent.—that is to say, 0.2 gram of fresh pars posterior is extracted with 1 c.cm. of saline solution. The albuminous matter is removed, and the preparation is sterilized by filtration through unglazed porcelain.

In the past the method usually adopted for standardization, if so it can be called, has been the reaction to the preparation of infundibulin of a strip of uterine muscle from one of the lower animals. As there are generic and seasonal variations in the reactivity of this muscle, the results obtained are not likely to be delicate or conclusive.

The chromatophore reaction in amphibia, described by Hogben and Winton in a series of papers, is hardly likely to prove more than an extremely sensitive qualitative indication of the presence of infundibulin, if, indeed, it prove to be a specific reaction. A quantitative method of standardization is required, and this cannot readily be obtained until we know the chemical formula of infundibulin. Accurate dosage will then be a simple matter.

It appears possible that some persons are more susceptible to the action of infundibulin than others; yet it is difficult to estimate such an idiosyncrasy, which may be nothing more than a local expression of the degree of the involuntary muscle paresis for which the preparation has been administered.

I propose here to confine my attention entirely to the use of infundibulin in surgical and obstetrical practice, and to say nothing of the many conditions in which its properties have been utilized by the gynaecologist and physician.

General Contraindications to the Use of Infundibulin.

Infundibulin should not be administered during an operation if there be respiratory failure, for the normal amplitude of respiratory movements is diminished by the extract.

When there is myocardial or valvular disease of the heart without complete compensation infundibulin is absolutely contraindicated. A fatal issue may follow the exhibition of a small dose. Even in the presence of compensation it is a dangerous drug to employ.

In renal disease associated with a high blood pressure the use of infundibulin is inadvisable.

The special contraindications which apply to the stimulation of intestinal and uterine muscle will be specified in the appropriate places.

Indications for and Contraindications to the Use of Infundibulin in Surgical Practice.

The Prevention and Treatment of Shock.

Shock, as is well known, may be caused by trauma and loss of blood, alone or together; by toxaemias, bacterial and chemical; and by violent psychical disturbances. It is generally agreed that in this state the systolic blood pressure is reduced—that is, there is loss of tone in the unstriped muscle tissue. As indicated, the production of a low blood pressure by one of the causes mentioned, although insufficient, perhaps, to produce a definite degree of shock, may, when associated with another of the causes, also acting in a minor degree, lead to the establishment of this state by a summation of effects.

Now, in the prevention of shock much can be done by the use of infundibulin in debilitated patients with low blood pressure. The administration of this extract several times each day for several days before a serious operation, undertaken in septic or cachectic cases, often enables the patient to withstand the traumatic effects of operation and the toxaemic effects of the anaesthetic.

Many surgeons at the present time adopt the precaution during an operation of any magnitude of having the blood pressure recorded every few minutes. For a number of years my anaesthetist has made a routine practice of this procedure, and I am sure he would bear me out when I say that it has often given him warning that the patient's condition is deteriorating many minutes before any other evidence was available. In such circumstances an injection of infundibulin may save the situation.

In a city so near the Scottish border I am perhaps on dangerous ground when I say that chloroform is not only more haemolytic, and more conducive to acidosis, than ether, but also has a more immediate and serious effect on the blood pressure. Infundibulin will do much to mitigate the last, but intelligent co-operation to simplify the work demanded of it is not to be despised. So, too, in regard to shock associated with loss of blood: it is clear that to raise the tone of muscle in empty vessels is a futile procedure, but that the maintenance of tone after the transfusion of blood or other colloid preparation is of the utmost importance. As stated, infundibulin raises the tone of hypotonic unstriped muscle to a far greater degree than is the case when the tone is normal.

Infundibulin, then, is of inestimable value in the treatment of shock, provided it is used with an intelligent appreciation of the nature of the condition, and of the factors concerned in the production of it.

The Prevention and Treatment of Post-operative Gastric and Intestinal Atony.

Few surgeons have not been faced with the problem of intestinal atony following abdominal operations. So common has been this complication that in some clinics the routine injection of infundibulin at stated intervals after operation is practised, in order to prevent ileus supervening. I do not think this should be necessary in "clean" cases; but much depends on the way in which the intestines and peritoneum are protected from injury and are treated during the operation. It will be generally agreed that to-day the technique of intra-abdominal interference in such patients has reduced the appearance of this distressing complication almost to vanishing point.

In septic cases, and in those in which there has been a certain amount of trauma in the separation of adhesions, which should be divided with sharp scissors or a knife whenever possible, paralytic distension is not infrequently encountered; and in them the preventive use of infundibulin, by means of intramuscular injections of 0.5 c.cm. every few hours, should form a regular part of the after-treatment of the patient. Should distension be already present when the matter is taken in hand, it is advisable that, ten minutes *after* an intramuscular injection of infundibulin, which sensitizes the intestinal musculature, a turpentine enema should be given slowly by means of a catheter and funnel.

In order to obtain a certain pressor effect on the intestinal muscle it is essential that a large dose be administered—namely, 1 c.cm. This dose followed by a turpentine enema

often gives a dramatic result. Similarly, in the rare condition of acute dilatation of the stomach, this organ should be washed out ten minutes after infundibulin has been injected.

The use of infundibulin in these complications is contraindicated if an operation involving repair or anastomosis of the stomach or intestines has been performed, and, of course, if unrelieved obstruction be present.

Vesical Atony.

When there is atony of the musculature of the bladder with distension a pressor effect and evacuation may follow an injection of infundibulin, but this result is somewhat uncertain.

After some gynaecological operations, and after parturition, it is not unusual for a patient to be unable to evacuate the bladder unaided. With good nursing and a proper use of the catheter it is rare for any protracted disability to occur. If, however, the patient be not carefully watched, there is always the possibility of an "overfull bladder"—paralytic distension, with overflow.

The inability voluntarily to empty the bladder can generally be overcome by the judicious use of infundibulin and a catheter. The bladder is allowed to become full to the normal extent, an injection of 1 c.cm. of the liquid extract is then given, and ten minutes later a small catheter is passed. When the flow commences the catheter is withdrawn, and in many cases micturition will continue naturally. Although this by no means always happens, and it may be necessary to repeat the procedure a number of times, I think it should be tried, for the long-continued invalidism that may follow vesical paresis cannot be lightly regarded.

Indications for and Contraindications to the Use of Infundibulin in Obstetrical Practice.

I do not propose to discuss the stimulation of uterine contractions in relation to abortion beyond saying that pituitary extract is not an abortifacient in the presence of a live foetus. When that period of gestation at which the foetus is viable has been reached, this extract becomes a most potent agent which may be used to the advantage or disadvantage of the patient.

Induction of Labour.

So far as the use of infundibulin is concerned for the termination of pregnancy, the indications may be classified as follows:

(*a*) For the expulsion of a dead child.
(*b*) In order to obviate the possibility of disproportion between the maternal and foetal parts.
(*c*) In the treatment of ante-partum haemorrhage.

In the first and second groups there is usually no urgency, and induction can be planned to suit the circumstances of the case. Infundibulin administered every four hours for several days in doses represented by 0.5 c.cm. of the liquid extract occasionally precipitates labour; but such an event is comparatively rare unless the patient be at term or the child is dead.

In those cases in which the dates and examination of the uterus and foetus reveal full-term pregnancy, and in which there is a strong probability of post-maturity, it is a very wise procedure to administer the extract as indicated. Labour in these circumstances often follows. If it does not, and in all ordinary cases in which induction at the thirty-sixth or thirty-seventh week is desired, the administration of infundibulin four or more times in each twenty-four hours for three days should be followed by the insertion of bougies, and after this the injections should be continued if labour does not supervene before the next dose is due. The uterus has been rendered so sensitive by the extract that the mechanical irritation of the bougies is greatly enhanced, and labour usually supervenes within a few hours.[11]

In the treatment of ante-partum haemorrhage infundibulin plays an important role. It is recognized by all obstetricians that the first method of treatment in cases of *accidental haemorrhage* in which the bleeding is not entirely concealed, and in which there are indications for interference, consists of rupture of the membranes and an intramuscular injection of infundibulin. Whether the foetus be at full term or premature does not matter, provided there are no general contraindications to the use of infundibulin. With regard to accidental haemorrhage which is entirely concealed, infundibulin should not be employed until the uterus has been emptied. Even then the response will depend on the state of the uterine musculature.

In placenta praevia, especially when the implantation is not central, infundibulin may form a valuable adjunct to other methods of treatment, such as rupture of the membranes. There is no specific danger whatsoever in the judicious use of infundibulin before labour has started, for, although subsequently labour pains may be strong, in my experience there has never been any evidence of excessive expulsive force.

Caesarean Section.

The question now naturally arises as to the use of infundibulin after Caesarean section. In ordinary cases an injection of 0.5 c.cm. of the liquid extract should be made into the triceps of the patient *after the uterine wound has been sutured*, if retraction appears then to be incomplete. When an injection is given before the uterus has been sutured, especially if it be given into the uterine muscle, it may be almost impossible properly to approximate the incised muscle wall of the uterus.

When, however, Caesarean section has been performed for concealed accidental haemorrhage and the uterus has been preserved, infundibulin should be injected directly into that organ. In these circumstances numerous injections of a few cubic millimetres should be made in various parts of the uterine wall. As already indicated, the result will, however, depend in a great measure on the damage sustained by the muscle bundles, among which scattered effusions of blood are often found.

Uterine Inertia.

A glance through standard textbooks is sufficient to indicate how limited has been the study, and consequently how incomplete is our knowledge, of uterine inertia. Some authors show an inclination to consider "primary" and "secondary" inertia as dissimilar phenomena, and not, as they really are, similar phenomena relative to time and space.

Until such time as the whole question has been made clear by the closer consideration of the chemical stimuli and reflex inhibitions involved, and in order to avoid complicating matters, it may be advisable to adhere to the classification universally adopted and to consider uterine inertia under the usual headings.

"Primary" Uterine Inertia.

"Primary uterine inertia" is the term applied to uterine inertia occurring before the second stage of labour. In order properly to explain the most useful role played by infundibulin in primary uterine inertia of a pathological type, it is important that I should make a few remarks on primary inertia in general.

Primary uterine inertia is of two kinds—physiological and pathological.

Physiological primary uterine inertia is a merciful and advantageous natural phenomenon. I believe it to be of a reflex and inhibitional character—that is to say, owing to some unusual and generally more or less obstructive condition, such as occipito-posterior presentation in a primigravida, for a long time the uterine contractions are feeble. I would, indeed, go further, and say that the inherent factor responsible for the weak pains of the normal first stage, especially in the primigravida, is the relatively obstructive condition of the incompletely dilated cervix. It is not, in fact, the weak contractions that are responsible for the slow dilatation of the os, but rather it is that the undilated os reflexly inhibits the uterine contractions. This may, by those who do not follow my reasoning closely, be regarded as splitting straws, but it is not so in reality, as that which follows will demonstrate.

In the first place, the blood pressure may be high. Secondly, if an injection of infundibulin be given in such

circumstances, this is not always followed by an increase in the expulsive contractions, although the tone of the uterine muscle is raised; but once the cervix is fully dilated, or almost fully dilated, the contractions may become in these circumstances dangerously violent. Nevertheless, in primary uterine inertia of the physiological type, although Nature will do her best to thwart our evil designs, we should never administer infundibulin, for it is not required, and, unless the diagnosis be accurate, serious trouble may follow.

Pathological primary uterine inertia, as is well known, may be due to inherent pathological conditions of the uterine musculature caused by multiparity, overdistension of the uterus from various causes, fibromyomata, and the rest; but with these I am not at the moment concerned. I refer rather to that form of primary uterine inertia which is associated with a normal uterine musculature; I mean the inertia that is due to an insufficiency of pressor substances in the blood. It is commonly believed that in these circumstances the output of infundibulin is insufficient.

This is a subject in which I have been much interested since I first drew attention to the importance of the diagnosis and treatment.[11] A bad obstetrical history of patients, who have quite evidently suffered with primary uterine inertia in previous labours, is frequently forthcoming, and I have seen more than one patient on whom Caesarean section has been performed for this condition. It is, however, most important that it should be recognized, if present, as it often is, during the first pregnancy, for not infrequently primary uterine inertia due to the cause under consideration dogs a woman throughout her obstetrical career.

Pathological primary uterine inertia of this type is definitely recognizable before labour commences, and should therefore be excluded, or its presence proved, in every pregnant woman during the last two weeks of gestation. When the patient is examined at this period, in normal circumstances palpation of the uterus through the abdominal wall and traction on the nipples excite painless but very definite contractions; during the period of relaxation the tone of the uterus is found to be good. If now the systolic blood pressure be recorded, it will be found to be above the average for non-pregnant normal women of the same age as that of the patient. When labour is due the blood pressure is often considerably raised.

On the other hand, in women in whom there is impending uterine inertia, it will be observed either that it is impossible to elicit uterine contractions at all, or that, when aroused, they are feeble and fleeting. Moreover, in quiescence the uterus feels flabby and atonic on abdominal palpation. The systolic blood pressure in these circumstances is found to be reduced to the equivalent of 110 mm. of mercury, or even less. I have therefore treated cases of primary pathological inertia of this type with infundibulin whenever the condition has been recognized and checked by a blood pressure reading—a method of corroboration that is always essential. The success of this treatment has been most encouraging. I regret that time will not allow me to record in detail some of the cases I have had under my care.

In such circumstances 0.5 c.cm. of the liquid extract is administered intramuscularly two or three times every day, according to the interval before labour is due. When a patient has been treated in this way before the onset of labour, it is usually quite unnecessary to administer any more of the extract during subsequent parturition, for the pains are then strong and forcible. If, however, the uterine contractions should become weak, there is no reason why infundibulin should not again be employed, provided the patient is multiparous and there are no contraindications, general or local.

In those other, not uncommon, instances to which reference has been made, of pathological primary inertia due to local anomalies, rather than to insufficiency of pressor substances in the blood, we are concerned with an abnormal condition of the muscular tissue due to various causes. I do not propose to consider the rarer of these; it will be enough to refer only to the effects produced by multiparity, and by overstretching of the muscle fibres by hydramnios and multiple pregnancy. In such circumstances the muscle does not respond to stimuli so forcibly as the normal tissue; consequently stimulation must be greater. In the absence of contraindications, and although the blood pressure be normal, the fluid extract may therefore be administered in small doses under careful observation, after labour has started.

"Secondary" Uterine Inertia.

"Secondary uterine inertia" is the term employed to denote an absence, or diminution in the efficiency, during labour of the uterine contractions, which previously had been normal. Secondary inertia may be due to the same causes as those responsible for primary inertia.

It is clear that in those cases in which the musculature is abnormal owing to multiparity and other causes the inertia is primary in origin, although possibly the contractions may have been strong enough to carry labour unaided through the first stage. It is unnecessary further to consider the treatment in such cases.

Strictly speaking, as I have indicated in my definition, the term "secondary inertia" implies a temporary failure of the uterine muscle to continue contracting normally. Now, it is usually stated that this is due to *exhaustion of the uterine muscle*. Can we be satisfied with this explanation, which, after all, had its origin in the distant past? I do not think there are inherent structural quantitative differences in the musculature of the uterus in different women of the same age, such as may be seen, for instance, in the skeletal muscles. Any differences that obtain are the result of local lesions, to which I have referred, or to constitutional conditions, which no doubt also influence the availability of pressor substances.

I believe that the usual form of secondary inertia is that which supervenes during a protracted labour: gradually the uterine contractions diminish in frequency and force as the result of exhaustion of the pressor substance in the blood. The condition is probably not due to exhaustion of muscle fibres in the uterus, for with muscle fatigue further stimulation creates no response, whereas in these cases a response is always obtainable by means of infundibulin. Confirmatory evidence of this view is found in the lowered blood pressure associated with secondary uterine inertia. In the presence of a sufficiency of pressor substances, if the labour be obstructed, an irritable condition of the muscle supervenes, and this may terminate in tonic contraction, especially when mechanical stimulation, in the form of operative interference, is superadded.

I have gone at some length into this matter because it is the realization of these points that makes it possible for us to state definitely the indication for the use of infundibulin during labour, and to emphasize the serious contraindications the neglect of which has led to many grave disasters. Before infundibulin is given during labour the accoucheur must have informed himself quite clearly that the contraindications to the use of this preparation are absent, and that the indication for it is beyond reasonable doubt.

Indication for the Use of Infundibulin during Labour.

The only scientific indication for the use of infundibulin during labour is the evidence, readily obtainable, of insufficiency of this substance in the blood. This evidence consists of a history of protracted labour, during which the previously normal contractions gradually diminished in force and frequency, and the state of the blood pressure. I have nothing to say against the practice of administering soporifics and of allowing the patient to recuperate. In many cases this is advisable. During the period of rest the pressor substances reaccumulate in the blood, and labour may terminate naturally. When, however, the head is low in the pelvis, and the pains cease for a long period of time, then, all else being equal, the best interests of the patient and child are served by the administration of infundibulin. So, too, when there has been inertia throughout the whole course of labour, this disability may be successfully treated by occasional injections of infundibular extract.

The question of dosage is of some moment. It is advisable during labour never to administer as an initial dose a greater quantity than 0.25 c.cm. intramuscularly. In a majority of

cases it will be found that this dose is quite effectual. It may, however, safely be repeated after an interval of two hours. If this small dose appears to have but little effect, then 0.5 c.cm. may be injected on the next occasion, but this quantity should not be exceeded.

Contraindications to the Use of Infundibulin during Labour.

The contraindications to the use of infundibular extract during labour are very clearly defined. In the first place, any disproportion between the foetal and maternal parts absolutely prohibits the exhibition of this preparation. Even though there be inertia due to prolonged labour, and a low blood pressure, indicating the exhaustion of pressor substances from the blood, infundibulin should not be given. To do so in the presence of recognizable disproportion is to run the grave risk of rupture of the uterus.

With respect to the statement made concerning arrest of the head when low in the pelvis, the frequency of such an occurrence due to contraction of the pelvic outlet must be remembered, otherwise a disaster may follow the use of infundibulin. The fact, too, that there is always relative disproportion in primigravidae, owing to the rigidity of the soft parts, must be borne in mind, and grave consideration must always be given to the question of employing infundibulin, which may lead to precipitate delivery with extensive lacerations of the maternal tissues, if not to rupture of the uterus.

Secondly, the presence of efficient uterine contractions is an absolute contraindication to the employment of infundibulin, for if in these circumstances no progress is made, obstruction, relative or absolute, exists.

It will be evident, then, that infundibulin must be used with extreme caution during labour. The scientific indication must be established, and the contraindications excluded with certainty. Moreover, it is a very sound rule that when forceps are indicated infundibulin is contraindicated, and this in spite of the invitation to us, published in press advertisements, to leave forceps at home and try somebody's specially potent brand of extract.

I have heard of so many cases in which the uterus has been ruptured as the result of the injudicious use of infundibulin—cases of this kind are rarely published—that sometimes I feel inclined to revert to the declaration made in my first paper, that infundibulin should not be used during labour. Yet to do so would be wrong; properly used, infundibulin, with its power of producing regular, rhythmical, and forcible uterine contractions in the absence of a sufficiency of pressor substances, and when the uterine musculature is deficient, may be a most valuable and beneficent agent in the hands of a careful accoucheur.

There is no one, I take it, who seriously doubts that the general use of infundibulin to terminate labour is as culpable as the indiscriminate application of forceps for the same time-saving purpose.

Third Stage of Labour.

The routine use of infundibulin as soon as the second stage of labour is over, to promote expulsion of the placenta, and to hasten the third stage, has been advocated.[12] I do not, however, regard such a procedure as either scientific or expedient when the labour up to this point has been normal, especially when there has been no inertia. If the placenta has been retained in these circumstances it is generally adherent, and the administration of infundibulin may cause the uterus to contract down upon it, rendering subsequent removal difficult. I have seen such cases myself, and I believe that this is what has happened in those instances that have been recorded of so-called hour-glass contraction of the uterus after delivery of the child. If, however, there has been inertia, or a long anaesthesia with the abolition of efficient contractions of the uterus, it is often wise to give infundibulin after the birth of the child, if it has not been given as an aid to delivery.

Infundibulin may be most advantageously employed after expulsion of the placenta, when uterine inertia has permitted post-partum haemorrhage. In these circumstances it is advisable to follow the intramuscular injection of 0.5 c.cm., or the intravenous injection of 0.25 c.cm. of the liquid extract in a little saline, by an intramuscular injection of ergotin, the efficacy of which is increased by the previous administration of infundibulin.

Subinvolution of the Uterus.

During the puerperium and in the subsequent weeks subinvolution of the uterus may be effectually treated by the administration of infundibulin. It is obvious that the sooner intramuscular injections are given, once the condition has been recognized, the better will be the result.

In conclusion, I would urge that infundibulin must always be employed with care, and with a due regard to the scientific indications in every case. The greatest harm and the gravest disasters have occurred in obstetrical practice from the injudicious use of this potent substance during labour.

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THE TREATMENT OF CONGENITAL CLUB-FOOT.

BY

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THE treatment of congenital club-foot must commence from the moment of birth, when the structures in the foot are soft and pliable, and little pain or shock is experienced by the infant.

There are four principal varieties of congenital club-foot: talipes equino-varus, equino-valgus, calcaneo-valgus, and calcaneo-varus; a less common deformity which sometimes requires treatment is mid-tarsal varus.

The principles of treatment are to stretch the contracted structures causing the deformity, and to relax and then educate those muscles which will restore the muscle balance of the foot. The usual methods are by splinting with malleable iron, by adhesive strapping, by plaster-of-Paris, by club-foot tin shoe, and by operation (Thomas wrench, etc.).

To simplify description it will be assumed that the deformity is talipes equino-varus. The objective is to untwist each part of the deformity in turn—first the varus and then the equinus deformity. The correction of the deformity is not, however, sufficient. The overstretched muscles, which probably have never functioned correctly, must be stimulated and trained to contract along their proper lines of action—for example, the peronei must be made (by tickling the sole) to evert the foot. Later, as the child grows, it can be taught to evert and dorsiflex the foot *voluntarily*. From this moment it is allowed to walk.

The exact method of splinting employed is immaterial. The important thing is attention to the detail of its application by the same operator throughout the treatment.

1. *Malleable Iron.*

This material is five-eighths of an inch wide and No. 18 gauge. Each splint should extend from above the knee to below the toes, be well padded on one side, and covered with jaconet.

The varus deformity is manipulated with the fingers until, if possible, only the equinus deformity is left. The limb is then covered with cotton-wool from above the knee to well below the toes, and the upper part of this secured in position with a few turns of special linen bandage. The foot is then held plantar-flexed and everted as much as possible, the malleable iron splint shaped to this deformity, and then placed along the outside of the leg and foot, and bandaged on with the same linen bandage from above downwards and from within outwards. The circulation is watched, and after twenty minutes the infant may be sent home, provided the colour of the toes is pink. This treatment is repeated daily until full eversion, voluntary and sustained, is produced.

Treatment of the equinus deformity then commences. A malleable splint consisting of a sole-plate and calf-piece, made out of one sheet of metal, with no twist at the junction of the two parts, is then applied. It is padded in the usual way, and is adjusted first to the sole in the equinus position, and then to the calf—that is, the splint is moulded to the equinus deformity. Each time the splint is removed the sole of the foot is tickled, in order to increase the power of eversion and dorsiflexion of the foot. Day by day the sole-plate is gradually dorsiflexed, thereby stretching the tendo Achillis, until full, sustained, active dorsiflexion is obtained. From this moment the child, if old enough, is encouraged to walk, adhesive strapping being applied occasionally to help in the eversion of the foot. When old enough to wear boots, these are wedged on the outer side of the sole and heel to maintain the correction of the deformity and encourage active eversion of the foot.

It is, however, seldom possible to carry out this ideal line of treatment without tenotomy of the tendo Achillis, which is performed under a general anaesthetic at the ninth month; the foot is kept dorsiflexed in plaster-of-Paris for at least six weeks. The knee is generally flexed and incorporated in the plaster to prevent the infant kicking it off. When the plaster is removed the usual muscle education follows.

2. *Correction by Adhesive Strapping.*

Only the very best strapping should be employed, as the infant's skin is exceptionally delicate;* it should be about one inch wide. The foot is manipulated and held everted. A strip of adhesive plaster is then applied to the centre of the sole, well in front of the mid-tarsal joint, passing round the outer side of the dorsum of the foot, under the sole, and then up along the fibular side of the leg to above the knee, which is held flexed. This strip is kept in position by a band of strapping passed twice round the leg just below the knee, and another above it. Should further eversion be desired, a linen bandage applied from above downwards will suffice. As its action is cumulative, the circulation should be watched with great care.

This line of treatment is continued daily (with tenotomy of the tendo Achillis later if necessary) until full over-correction of the deformity is produced, and can be maintained by strong muscular action. The rest of the procedure is as already described under treatment with the malleable iron splint.

3. *Correction by Plaster-of-Paris.*

The foot is manipulated as before, and special cotton-wool applied from below the toes to above the knee. Plaster-of-Paris is then put on, to above the knee, the foot being held in a position just short of the maximum correction obtained. The knee-joint is of course flexed to prevent the plaster slipping off the limb in the course of the next few days. This method of attack is repeated at frequent intervals until the foot is completely corrected, or division of the tendo Achillis becomes necessary.

There are certain distinct disadvantages about this method—it is exceedingly difficult to apply to small children, so that it really acts as a corrective plaster. Moreover, it is apt to get soiled, and comes off the limb very easily. Further, minute attention has to be paid to the circulation, as the plaster may easily compress the limb, and even retard its growth. In older children the following modification gives excellent results:

> The foot is corrected, and held everted; the knee is flexed to 90 degrees and cotton-wool applied. A plaster-of-Paris bandage is placed round the knee. Whilst this is setting another bandage is applied from within outwards across the sole at the level of the transverse arch so as to evert the foot; when this band is several layers thick the bandage is then passed from the sole along the outside of the foot and leg to above the knee, where it is held taut, everting and dorsiflexing the foot, and is then incorporated in the knee-piece. Another plaster bandage is then applied from above downwards so as to include the leg and remainder of the foot, and at the same time increase the eversion.

This is an excellent method, but difficult, and accused of causing knock-knee, a complication which the writer has never seen.

* The "Zo" brand, manufactured by Johnson and Johnson, is very good.

4. *Treatment by the Club-foot Tin Shoe.*

As a rule this is used as a retentive, rather than a corrective, splint. It consists of a sole-piece and a calf-piece, united by a stem which projects slightly backwards to avoid pressure on the heel.

The foot is manipulated and everted, the sole-piece of the splint being moulded to just less than the amount of eversion obtained. A strip of adhesive strapping is then passed from the sole round the outside of the foot, across the dorsum and then underneath the sole again to the outside of the foot, which is then placed firmly on the sole-plate of the splint, and secured there by the free end of adhesive plaster. The rest of the limb is then bandaged or strapped in position.

At each manipulation the sole-plate is everted further, and even dorsiflexed, though it is unwise to attempt the correction of more than one deformity at a time. When overcorrection has been obtained the child is allowed to walk. Should it be too young, then the splint is kept on until it can start to walk. In the former case the club-foot shoe may be used as a retentive splint for night wear.

5. *Operations.*

Operations should seldom be necessary, and then only in older children in whom the ordinary treatment by simple manipulation and splintage has failed; or in cases of neglect, or so-called "relapse." It may, however, be necessary to employ one of the following operations: (*a*) manipulation with the Thomas wrench, (*b*) tenotomies, etc., (*c*) bone operations.

(*a*) *Manipulation with the Thomas Wrench.*—In infants and small children the hands and fingers are sufficient to correct a club-foot. In older children the Thomas wrench must be employed—first the adduction, then the varus, and finally the equinus deformity being thoroughly overcome. A retentive splint, or better, plaster-of-Paris, with plenty of cotton-wool, is then applied.

(*b*) *Tenotomies, etc.*—The tendons of the tibiales muscles (anticus and posticus) need never be divided; the tendo Achillis, however, generally needs division or elongation. The plantar fascia may require division in moderate degrees of pes cavus; in advanced cases Steindler's operation is the best—unless, of course, the deformity is so great as to require a cuneiform tarsectomy. An *x*-ray film will decide if the latter be necessary. Open division of soft structures should be advocated before operations on bone are undertaken—for example, division of the deltoid and posterior ligaments of the ankle, and the scaphoid ligaments.

(*c*) *Bone Operations.*—These should only be undertaken in children over 8 to 10 years of age, in whom the ordinary routine measures have failed and *x*-ray films prove the presence of a bony block or blocks. In such cases cuneiform resection should be performed, with the base of the wedge upwards and outwards, the various joints being as far as possible left intact. Retention in plaster-of-Paris for several months is essential, and the after-treatment even more important than the operation. Astragalectomy is seldom necessary, and then only in the adult, due care being taken to ensure backward displacement of the foot. Internal rotation of the tibia is generally corrected *pari passu* with the manual correction of the foot, but in cases of neglect or relapse simple manual osteoclasis of the tibia will cure this deformity. Open operation is unnecessary, and to be avoided, as cases of non-union have been recorded.

Throughout this article talipes equino-varus has been taken as the type. The other deformities are treated along similar lines, the various methods of splintage being adapted accordingly.

The prognosis is excellent in those cases seen early, and fair in neglected and "relapsed" cases, and in those children who have already been operated upon. Treatment is more difficult, and the results not so satisfactory, in children with "stubby" heels, talipes calcaneo-valgus, or simple mid-tarsal varus.

The keynote of success in the treatment of congenital club-foot is immediate splintage by simple means by the same operator throughout.

DIABETIC TREATMENT SIMPLIFIED.

BY

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FEW will deny, least of all general practitioners, that the treatment of diabetes has now become very complicated, and, in my opinion, there is a real danger of the main issues becoming fogged in a cloud of bewildering details. The main issues are: (1) the quantity of sugar excreted day by day; (2) the presence or absence of ketones; (3) treatment by regulating the quantity and quality of the diet, or by giving insulin if dietetics prove inadequate; (4) the blood sugar (in special cases).

The ground can be cleared by distinguishing clinically between cases of simple glycosuria, which are common and usually unimportant, and stubborn diabetes, which is uncommon and serious. This paper deals with genuine diabetics who are living at home.

Measurement of the Daily Excretion of Sugar.

Obviously it is a cardinal necessity that both doctor and patient should have daily knowledge of this over prolonged periods. Without this knowledge treatment cannot be either intelligent or effective. Yet, in private practice, even at the present day, this indispensable minimum of knowledge is

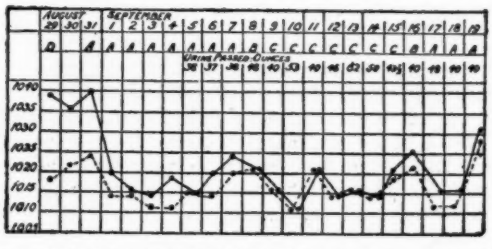

CHART 1.—Diabetes and acute phthisis in a woman, aged 21. Showing the effect of insulin in pinching the curves together when diet was powerless to do so. A, 20 units of insulin injected; B, 15 units of insulin injected; C, 10 units of insulin injected; D, strict diabetic diet. The patient's appetite was poor from August 29th till September 14th, after which it improved, needing more insulin.

lacking, or rather is available to doctor and patient only at rare or occasional intervals. The daily variations in sugar excretion—which I know to be very wide—are hidden: only the occasional testing days are illuminated.

This deficiency, during the last four years, I have remedied by a very simple method whereby the patient himself is able to measure and record on a chart the daily variations in the excretion of his sugar. I have yet to meet the private patient who was not able and willing to do this, usually with enthusiasm. The method is described at the end of this paper.

Now what does this daily chart of sugar excretion enable us to do?

1. The doctor can see at a glance whether in his absence the patient has been going on well and has been obeying instructions. In the green-pea season a patient who was too fond of them was detected by his chart. A paint manufacturer's sugar was seen to increase owing to worry when the price of oil jumped. A small boy in hospital crept from his cot at 3 a.m. and devoured a box of chocolates. Chart 3 reveals this and his other falls from grace. Further, the patient himself can see when he makes mistakes. He takes pride in producing a chart without such blemishes, and hence is more careful in his diet. Also he is rewarded visibly for his starvation days if they are imposed (Chart 4).

2. If insulin is being given in private practice one has to leave a little sugar (1 or 2 grains per ounce) in the urine as a safeguard against hypoglycaemia. By the help of the daily chart (see Chart 1) this can easily be done by adjusting the amount of insulin or bread. Without a daily chart the steering must be very wild—and dangerous, I would think.

3. The daily chart enables the practitioner to send calories to the devil, where they belong. Calories are well enough in a research laboratory, but human patients are not engineering propositions. Each man varies in his efficiency, both digestive and metabolic; he varies in respect of the calories he has to spend in exercise or in keeping up his body heat in variance with his house, his clothes, and the weather. Then there are the varying hosts of bacilli which we feed in our intestinal canal and which form so large a proportion of our faeces.

For reasons of this kind it is, I fancy, a pseudo-scientific presumptuousness to pretend to be able to work out by arithmetic a cast-iron table of a man's food requirements. On the other hand, Nature does give a man an appetite varying roughly with his daily needs (bulimia is quite exceptional in diabetes and at any rate laughs at calories). And if restrictions of the quality of his diet are shown by the sugar chart to be inadequate, the patient's quantity of food must be restricted, especially if he weighs too much.

What I do is to put the diabetic gradually on to a diet free from carbohydrate. If sugar persists and no ketones appear, diminish the quantity. If ketones appear, 1 to 3 ounces of bread (weighed) is added, and enough insulin injected to bring the sugar almost to zero. Or weekly "starvation days" on greens, bouillon, and coffee may obviate the necessity for insulin.

I do not claim that the daily chart of sugar excretion is a perfect method, but I have found it reliable, adequate, and most helpful. A daily chart of the blood sugar would in some ways be more perfect. But this fluctuates violently from hour to hour; it yields no summative measurement as the urine does; and, at any rate, daily blood sugar tests are impracticable in private practice.

4. Another point of interest (and perhaps of novelty)

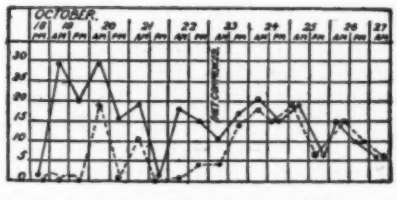

CHART 2.—Simple glycosuria easily cured by diet; no ketones. Diet makes the two curves coincide.

shown by the daily charts is that occasionally the urine, when fermented, has the same specific gravity as water. At the beginning of the little boy's chart (3) this occurred for two consecutive days, and also in Chart 4. Weak sugar and water does the same when fermented. If this be verified by more accurate methods it would mean that the kidneys secreted no other solids than sugar on those brief occasions, although the patient's health does not seem affected.

Insulin.

The main practical points are:

1. Insulin is something which somehow enables a diabetic to burn up sugar like a normal person, but does not enable him to store it as glycogen.

2. Insulin can in this way cause the blood sugar to sink to a dangerously low level (hypoglycaemia). This danger can be guarded against if the patient always carries about with him eight large lumps of sugar (1 or 2 ounces of barley sugar—Maclean) and promptly eats them all if he feels queer after an injection of insulin. Two grams of glucose are supposed to keep busy one unit of insulin; from which I reckon that eight average lumps of sugar would act as antidote to 15 units of insulin.

3. Insulin is given two or three times a day, just before a chief meal, which if possible should contain 1 ounce of bread; 10 to 50 units daily is the usual range of dose; more is seldom useful.

4. The patient can be taught to inject it into the pinched-up skin of the thigh, under weekly supervision. A trained nurse is better, but a doctor cannot be at hand three times a day before meals.

5. Insulin has to be acid; in a few subjects this causes painful lumps. It is said that neutralization in the syringe by sterile sodium bicarbonate solution of proper strength prevents this irritation and does not impair the action of the insulin.

6. As to blood tests with insulin, I have rarely found them helpful (see "Coma in diabetes"), for it is unattainable

in private practice to keep the blood sugar normal. You dare not even keep the urine quite free of sugar in insulin cases.

7. The risk of giving insulin in unsuitable cases will be practically eliminated without blood tests (*a*) if you first try to cure all cases by diet alone; (*b*) if ketones are present, and abundant sugar, insulin is surely needed; (*c*) leaky kidneys (renal glycosuria) are a real but uncommon danger. These cases may be recognized by their uncanny failure to improve with diet, by their good health, by the absence of ketones, and by the absence of glycosuria three hours after a good starchy meal. A blood sugar will decide the matter by showing a low renal threshold for sugar. So also, I imagine, would the absence of rhythmic oscillation in a weekly starvation chart (as Chart 4); but

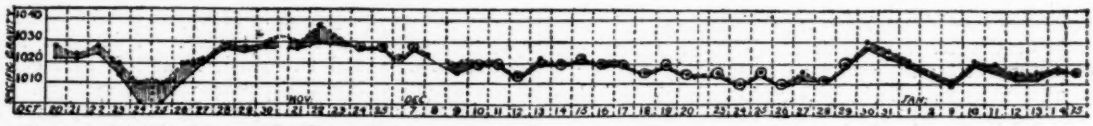

CHART 3.—Diabetic boy aged 8. The shaded area between the curves is the quantity of sugar in the urine day by day. Sugar reappears after Christmas indiscretions.

I have seen no such case in the last four years. To insist that we should test the blood of every glycosuric patient before giving insulin so as to avoid this fairly obvious bugbear seems to me absurd.

8. I do not recollect seeing a single ill effect attributable to insulin, while the benefits are notorious. But if in an emergency you are nervous of causing hypoglycaemia you can guard the insulin with sugar, as above.

Ketones.

Ketones, such as acetone and diacetic acid, are half-oxidized fats. Their presence in the urine is revealed by the nitro-prusside test or the ferric chloride test; I prefer the latter, as the former is too sensitive and becomes a scaremonger.

If the addition of two drops of liq. ferri perchlor. fort. to the urine produces a dark-brown colour then ketones are present in dangerous amount, and must be got rid of, lest coma supervene. Ketones are far more pregnant with danger than sugar, and are often produced by too strict a dietary. They indicate that the fats in the system are not being properly burnt up. Now how can these poisonous half-oxidized ketones be thoroughly and harmlessly burnt up? By giving more carbohydrate food, for the fats are combusted in the furnace of brightly burning carbohydrates. But the special weakness of the diabetic is that he cannot burn up his carbohydrates properly. Hence, to get rid of ketones, it is often needful not only to give extra carbohydrate, but also to give insulin, which has the mysterious property of enabling the diabetic to burn up sugar like an ordinary person. So that if ketones appear, watch for coma, ignore the sugar in the urine, and treat the much greater danger by giving alkalis freely and more bread. And if you find that large doses of alkali fail to make the urine alkaline, then the peril of coma is menacing indeed. Ten grains of sodium bicarbonate should alkalize a normal urine; so try your ketosis patient with 20 grains. An hour afterwards boil and cool the urine in a test tube and test with blue litmus paper.

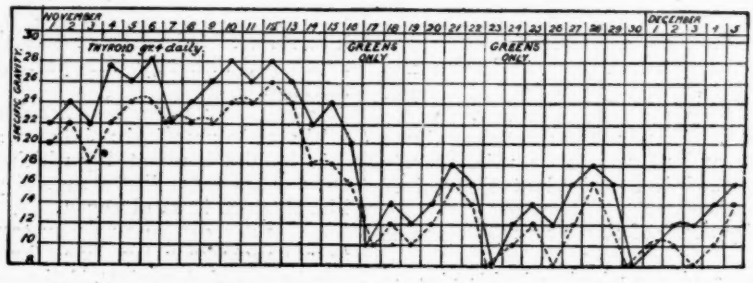

CHART 4.—Showing effect on sugar excretion of Sundays on greens only. The two curves approximate at the week-ends (no sugar). From a case of diabetes with myxoedema.

Coma in Diabetes.

Here I can only touch upon the main principles. Since the coma is probably due to poisoning by the "acid" bodies formed by the imperfect combustion of fats, we are told to give alkalis freely by mouth or rectum (not intravenously nowadays). We must certainly give insulin freely; but the terrible question is, how much? Either timidity or rashness may kill. If you can have a blood sugar test every hour or so, then you are on sure ground. But this must not entail delay. Failing this, it seems to me you must guard your big doses of insulin with glucose. This will ensure against hypoglycaemia, and by its combustion it should destroy the poisonous ketones. However, some authorities are opposed strongly to injecting sugar, though their reasons seem weak to me. Agreement is not yet reached, but if you can inject sugar you do not require blood tests.

There is no time in coma to trifle with half-measures. Hence intravenous injections are needed, starting with 20 to 40 units of insulin, 40 to 80 grams of glucose in 800 to 1,600 c.cm. of water. Then you must feel your way by results, but 80 to 100 units or even more may be needed in the first day. Croton oil, strychnine, and camphor will also probably be indicated. I have seen nothing in medicine more dramatic than the swift escape from the very jaws of death into the enjoyment of apparent health which usually follows this treatment.

Persistent vomiting, with coma, is a very fatal complication. Although albuminuria may be slight, I have wondered if the real poison was uraemic in nature; but I have not yet had a chance of measuring the blood urea. Certainly, after long periods of diabetic overwork and irritation, the kidneys frequently show signs of wear and injury. Thus, numerous casts, albumin, and diminished sugar are often found in the urine in coma.

Exercise.

Exercise in moderation is important in diabetes to help the combustion of sugar to carbonic acid which takes place in the muscles. Gardening is an excellent hobby for diabetic patients, and often makes them look the picture of bronzed and ruddy health. Bed should be prescribed only during starvation or illness.

Method of Domestic Estimation of Urinary Sugar.

The apparatus required is: (1) A urinometer with a long stem indicating clearly specific gravities 1000 to 1050. This, and its glass cylinder, should have a case for travelling. (2) An engineering student's exercise book of squared paper. Its left-hand margin is also graduated 1000 to 1050. (3) A thermos flask, pint size. (4) A pennyworth of yeast, fresh twice a week.

Method.

Every night the specific gravity of the urine is taken when warm. The thermos flask, which has been warmed and cleansed with hot water, is filled with the warm urine; a piece of yeast the size of a small wainut is added and shaken up. The flask is corked loosely (or with cotton-wool) and wrapped in blanket. Next morning the specific gravity is again taken. It will be less, because all the sugar has been converted by the yeast into carbonic acid gas (mainly). Let us suppose the gravities before and after fermentation were 1040 and 1020. A red dot and a black dot will be placed at their proper heights in the first column of the squared page. Next day another pair of dots will appear in the next column. Thus will be spun out an upper and a lower curve, one red and the other black. The space between these curves represents the excretion of sugar in grains per ounce. The object of treatment is to pinch these two curves together. When they coincide there is no sugar,

and it is well to mark these days by a red dot within a circle.

If the morning urine alone is recorded the results will be more constant, more flattering, and less useful. The night specimen is best for a patient who does not always urinate at home. A twenty-four hours specimen is not much better; it is a nuisance to warm, and is only available for the home-keeping patient.

Ketone Test.—Every morning the patient watches two drops of liquor ferri perchlor. trickle down the near side of the urine glass. If it changes from yellow to *dark* brown the doctor must be informed that day.

THE SCHICK TEST AND ACTIVE IMMUNIZATION AGAINST DIPHTHERIA.

BY

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THE burgh of Fraserburgh has, according to the Registrar-General's estimate for 1923, a population of 10,367. The births in that year numbered 257, and the average for the preceding five years was 287.

Incidence of Diphtheria in the Burgh.

Since 1900 there has been in Fraserburgh, as in other towns in the kingdom, an increasing incidence of diphtheria, as the following total notifications indicate:

1900–04	48
1905–09	127
1910–14	164
1915–19	61
1920–23	401

In view of this increased incidence and the cost of hospital isolation, the Public Health Committee, on my recommendation, decided to try the newer measures of prevention by toxin-antitoxin inoculation, and accordingly, on March 25th, 1924, decided to open a series of clinics, free of charge, for the inoculation of children under 5. The clinics were to be held once a week in the Town House, and to be conducted by the local medical practitioners in rotation, who had cordially agreed to give their assistance.

In recommending that children under 5 should be dealt with first, I was influenced by the fact that at this age reactions either do not occur or, as Dr. Park says, are "slight or negligible." The susceptibility at this age to diphtheria (70 to 80 per cent.), and the fact that half of the diphtheria deaths are among children under 5, were also reasons for trying to get as many of them as possible inoculated. It seemed likely also that the absence or slight nature of the reactions in young children would lead parents more readily to give their consent for the inoculation of the older children when the schools were dealt with, and this proved to be the case.

The first step in the way of propaganda was the distribution through the schools of a leaflet to all parents or guardians having children attending school, explaining the purpose of the clinic and the value of toxin-antitoxin inoculation, while the same leaflet was shown in large posters in shop windows and other places throughout the town.

The following is a copy of the leaflet.

DIPHTHERIA PREVENTION.

To Parents or Guardians:

Diphtheria is a most dangerous disease, and is particularly fatal to young children. Of a hundred deaths from diphtheria, 80 are under 10 years of age, the larger proportion being under 5.

Your children need not have diphtheria. It can be prevented.

Some people are able to resist the germs of diphtheria, others are not.

A simple method—painless and harmless—has been discovered to find this out. It is called the Schick test.

If this shows that your child does not resist diphtheria germs, it can be inoculated and protected against diphtheria.

As almost all children over 6 months and under 5 years of age are liable to contract the disease, it is not necessary to apply the Schick test to them. They should all be inoculated and protected. The inoculations are followed by no constitutional reactions and very little local irritation.

This method has been used for several years, and so far almost no one who has been so protected has got diphtheria.

Diphtheria can be stamped out and many lives saved every year if mothers will have this done and protect their children.

The Town Council of Fraserburgh have resolved as a first step to give parents an opportunity of having all children under 5 years of age and over 6 months protected free of charge. They have accordingly arranged to open a clinic in the Town House to which children under 5 may be brought. The clinic will commence on Wednesday, the 11th June, and will continue for six weeks, a meeting being held each Wednesday at 2.30 in the Town House. This clinic will be conducted by Dr. Beddie.

Subsequent clinics will be conducted by the other doctors in rotation.

To obtain complete protection each child will have to be brought to the clinic three times, at a week apart.

Articles giving a more complete explanation of the Schick test and toxin-antitoxin inoculation were published in the Aberdeen and Fraserburgh newspapers, and we were greatly indebted to the press for the strong support they gave us in the work. I carried out also, as far as time permitted, a personal visitation of the homes, more especially in the poorer parts of the town where diphtheria had been most prevalent.

Clinics.—The first clinic was opened on June 11th, but there was no attendance on the first three occasions. To the fourth clinic, however (July 2nd), 5 children were brought, and to the fifth 10. To the next three clinics 4, 3, and 0 came forward—the total attendances being 19, 17, and 6. To the eight clinics, therefore (June 11th to July 30th), only 22 children had been brought. This was largely due to the fact that, owing to absence on holiday in July, I was unable to continue the visitation of the homes which I had begun in June. On my return this visitation was energetically resumed, and the numbers coming to the clinics began to increase. On August 6th, 15 fresh children, and on August 13th 41, came, making the total at this latter clinic 57. With the consent of the Public Health Committee a second weekly clinic was opened on August 18th, and as the numbers continued to grow a third clinic was commenced on September 5th. These three clinics were carried on throughout September, October, and November, while one of them was continued into December. Apart from school children, there was a total attendance of 596 children under 5, 92 per cent. of whom were inoculated thrice, while of the remaining 47, 25 had two inoculations and 22 had one; 780 children from the schools were also inoculated at these clinics.

Schools.—On September 4th, by which date 183 children had attended the clinic, the town council resolved unanimously to take measures to deal with the schools, and authorized me, with the assent of the education authority, to ask for the consent of parents to inoculate those under 7 without Schick testing, to use the Schick test for those over 7 and inoculate those found Schick-positive, and to obtain such assistance as might be necessary. I did not think it desirable to apply the Schick test to children under 7, and the experience of applying the Schick test in the schools has confirmed me in this view. The head masters and mistresses of the schools were approached, and they most kindly promised their hearty co-operation. With their assistance consent forms were distributed to all parents and guardians; the forms were of two kinds, according as the children were under or over 7. Class sheets were provided, and these were very kindly filled in by the teachers of each class from the consent forms returned. No propaganda was employed further in connexion with the schools, other than had already been carried out for the children under 5. There are five schools in Fraserburgh, of which three are attended by children under 7—namely, the Infant, the North, and St. Peter's Episcopal. St. Peter's and the North School have children also up to 14, and the Infant School to 11. The Central is attended by children from 8½ to 14 years; the Academy pupils are over 12 years.

Children under 7.—For children under 7 consent was obtained for the inoculation of 324—namely:

St. Peter's Episcopal ...	29=93%	of children under 7
Infant	222=87%	,, ,,
North	73=61%	,, ,,
	324=80%	

Children over 7.—For children from 7 to 14 consent was obtained for 1,239. These belonged to the following schools:

Central	608=90%	of children over 7
Academy	202=88%	,, ,,
St. Peter's	100=86%	,, ,,
Infant	143=85%	,, ,,
North	184=61.5%	,, ,,
	1,237=82.2%	

The percentages of consents are very high. Dr. Park, speaking of the New York schools, says that these varied "from one-fourth to three-fourths, depending upon whether the teachers were enthusiastic or not in their co-operation," while the average for sixteen Edinburgh schools, as given by Dr. Benson,[1] was 42.3 per cent.

Schick Testing and Results.

The testing was carried out by a medical staff of seven, under the able supervision of Dr. Anderson, superintendent of the City Hospital, Aberdeen, who had been kindly allowed to assist in the work. In all cases a control test was carried out on the right arm. The Schick testing occupied two and a half days (October 13th to 15th), and the results were read on October 17th and 24th.

Of the 1,239 children, 456 were found to be Schick-positive and 783 Schick-negative. The following table gives the results:

Total Schick-positive (including 43 pseudo-positive)	456=36.8%
Total Schick-negative (including 130 pseudo-negative)	783=63.2%

The percentage of Schick-positives for each school was as follows: Infant, 49.6; Central, 48; Academy, 43; North, 39; and St. Peter's, 24. It is interesting to note that the average of Schick-positives among 83,000 children in the New York schools, as given by Dr. Park in 1922, was 35.7.

The inoculation of the school children was carried out at the clinics in the Town House along with the children under 5; the total number of inoculations done at these from June 11th to December 24th was 4,039. The highest numbers attending a clinic were 198, 188, 186, and 175.

The total number of children from 6 months to 14 years of age inoculated was 1,376. Of these, 1,290 (94 per cent.) completed the three inoculations. In addition, 12 teachers were inoculated (2 male and 10 female).

The numbers inoculated at the age of 7 and under were: from 6 months to 1 year, 61; second year, 142; third year, 141; fourth year, 150; fifth year, 166; sixth year, 153; and seventh year, 123.

One of the most gratifying features of the work was the entire absence or the comparatively slight character of the reactions following the inoculations of the children under 5. In the case of children over 5 also we were fortunate in having no reactions of a serious character.

Effect on School Attendance.

That the reactions in those over 5 were either absent or not serious is shown by the reports as to the amount of absenteeism in the schools following upon the inoculations, with which the headmasters and headmistresses very kindly supplied me, and which show that the inoculations had no noticeable effect on the school attendance. One may be given as an example:

In the Central School the percentage attendances from October 17th, the week of the Schick test, to December 5th, a week after the third inoculation, were as follows: 93.4; 91.3; 88.1; 92.1; 90.3; 90.4; 90; and 90.5. The inoculations were done in the three weeks from November 14th to November 28th. "The change in percentage attendance," the headmaster points out, "is not noticeable."

The reports for the other schools were in similar terms.

Incidence of Diphtheria amongst those Inoculated.

Amongst the children who were inoculated, three cases of diphtheria occurred down to February 14th. The first was a boy, aged 6, inoculated on October 12th, 20th, and 29th, who developed diphtheria on November 30th. His attack was so slight that he recovered without the administration of antitoxin. The second was a girl, aged 4½ years, who developed diphtheria on December 13th, forty-five days after the date of the third inoculation, which was on October 28th. There was hardly time, therefore, for her to have developed protection. The third case was a child, aged 2½ years, who was notified on January 21st, 1925. She had been inoculated on August 13th, 20th, and 27th, 1924, so that there was time for protection to have developed. Two points, however, have to be kept in view: first, that protection may not be complete for a year; and secondly, that a certain percentage of cases are not protected by the first series of inoculations. All three cases made a good recovery. I may add that during 1924 43 cases of diphtheria were notified in Fraserburgh, 18 being under 14 years of age. This year (1925) 5 cases in all have been notified, all under 14. One of these was the third case referred to above as occurring amongst those who had been inoculated. The other 4 cases had not been inoculated. One of them had had diphtheria four years ago. Last year two girls, 9 and 12 years of age respectively, who had been tested and found Schick-positive, developed diphtheria before the inoculations could be carried out.

Suggestions.

As the result of my experience in Fraserburgh, I have formed the opinion:

1. That, for the reasons mentioned in the earlier part of the paper, it is better to commence the work with children under 5, and that even in an area where antivaccinators are numerous (and in Fraserburgh the percentage of unvaccinated children is from 30 to 40) the work may be successful if carried out with energy and perseverance.

2. That the most successful form of propaganda is the visitation of the homes, and in this latter work the fathers as well as the mothers must be approached and persuaded. I frequently found that the rather sharp reactions which had sometimes followed inoculations, such as those against typhoid, paratyphoid A, and paratyphoid B, in the late war, had made many of the men who had experienced them averse to inoculations generally, and they had to be convinced that the inoculations of the children with toxin-antitoxin would not be followed by similar reactions.

3. That if prejudice against it amongst the working class is to be avoided, the work should be carried out simultaneously among the better class.

4. That it is very important that medical practitioners be asked to co-operate to the utmost extent. In the support I received from the medical men in Fraserburgh I was singularly fortunate, and to their help the success of the work was largely due. I should like to add also that the district nurse rendered me the greatest assistance, and that she was present at all the clinics and helped most effectively in the propaganda work.

I think there can be no doubt that if toxin-antitoxin inoculation against diphtheria were adopted generally it would lead to a great diminution in the incidence of the disease and to a still greater diminution in the case mortality. Sir George Newman admits that diphtheria remains "one of the most baffling diseases from the point of view of the public health administrator, and that the mortality from it has not shown any decline during the past ten years." It was the failure of the usual administrative measures accompanied by a high case mortality that led Dr. Park and his coadjutors to introduce these measures in New York. They found that the number of "carriers" in times of epidemic made the control of diphtheria by the ordinary methods of little or no avail.

The Town Council of Fraserburgh and its Public Health Committee have supported whole-heartedly the various measures recommended, and faced the rather heavy expenditure involved without hesitation and in a highly public-spirited manner, seeing that they were about the first authority in this country to adopt these new measures on a large scale.

REFERENCE.

[1] *Lancet*, November 8th, 1924.

JEJUNO-COLOSTOMY IN THE TREATMENT OF ACUTE SPREADING PERITONITIS.

BY

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THE prognosis of acute spreading peritonitis has improved very greatly since the universal recognition of the importance of removal of the focus of the infection (commonly the appendix), drainage, rectal salines, and Fowler's position. Unfortunately cases occasionally occur in which the application of these methods fails, and hitherto the outlook in such circumstances has been almost hopeless.

Mr. Sampson Handley's work on this subject cannot be too widely known. It is of great value, and his line of treatment offers a hope in truly desperate cases. He embodied his views in a Hunterian Lecture, which is published in a finely illustrated article in the *British Journal of Surgery* (January, 1925). The chief points in this lecture may be summarized as follows:

1. The importance of intestinal paralysis in severe forms of peritonitis.

2. In some cases the infection itself, and the toxaemia resulting, are so intense that no treatment is of avail.

3. In others, less severe, but progressing more slowly to a fatal issue (in spite of removal of the septic focus, drainage, Fowler's position, etc.), the main feature is failure to produce an action of the bowels. Death in these cases is due not so much to absorption from the peritoneum as to paralysis of the bowel wall.

4. This paralysis does not usually affect the whole of the bowel, as is often thought to be the case.

5. The paralysis affects, at first, the pelvic coils of the ileum and the pelvic colon (hence the name of "ileus duplex" given some years ago to this condition by Mr. Handley). Later, the peritonitis spreads upwards to the hypogastric region, and a large amount of small intestine becomes involved, but the inflammation does not often reach the upper abdomen. "General" peritonitis is rare.

6. The signs of spreading "hypogastric peritonitis" are tenderness, rigidity, distension, and immobility of the abdomen below the umbilicus; rising pulse and falling temperature; anxiety and extreme discomfort; vomiting which is vigorous and in considerable amount at not frequent intervals (and not yet effortless, frequent, and in small quantities—which is a final hopeless stage), and failure of turpentine enemata, combined with hypodermic injections of pituitrin and eserine, to emit flatus.

7. Treatment is designed to overcome the obstruction which exists in the small bowel and also in the pelvic colon. If the obstruction is relieved, the peritonitis tends to subside. Jejunostomy has obvious disadvantages. The procedure advocated is short-circuiting combined with a temporary caecostomy; in the pelvic stage an ileo-caecostomy with caecostomy; in the hypogastric stage a jejuno-colostomy with caecostomy.

Mr. Handley reports four cases with spreading hypogastric peritonitis, in which he performed jejuno-colostomy and caecostomy. Three of these completely recovered. He informs me that none of these patients have suffered any disability from the short-circuiting, such as diarrhoea or loss of weight. Presumably the anastomotic opening tends to close—or ceases to function—when the peritonitis subsides and the obstruction disappears. In the fourth case, although the infection was so severe as to cause pyaemic abscesses, from which the patient died on the twenty-seventh day, yet the peritonitis entirely subsided.

A similar case that I have treated recently furnishes another proof of the correctness of Mr. Handley's views and the hopefulness of the treatment that he recommends.

In my case the patient had acute spreading peritonitis, and was very obviously going downhill. A jejuno-colostomy was performed with immediate beneficial result, and the peritonitis completely subsided in two weeks' time. A sloughing ischio-rectal abscess unfortunately developed, and the patient died from its effects on the twenty-sixth day after the operation.

It will be noticed that caecostomy was not done in this case. The pelvic colon is not necessarily involved in the inflammatory paralysis, though this would presumably be so when it has a long loop which lies in the pelvis. Three days before the short-circuiting was performed a large collection of pus had been drained from the pelvis, and an enema administered soon after had given a good result. This convinced me that the pelvic colon itself was not paralysed, but only the small intestine, as was subsequently verified.

As a rule, however, it would, I presume, be wiser to combine caecostomy with the anastomosis.

A married woman, aged 47, had mild pain in the abdomen on January 21st, 1925, and vomited once. The next day she called in Dr. Poole of Norwich. The temperature was 99° F. and the pulse below 80. She had slight abdominal pain, but there were no local signs, either abdominally or on pelvic examination, sufficient to enable a diagnosis to be made. The symptoms remained about the same until January 26th, when the abdomen became distended, and the patient vomited two or three times. An enema gave a good result.

First Operation.

I saw the patient in consultation with Dr. Poole on January 27th. The symptoms were increasing. There was marked distension of the abdomen, but no rigidity. The temperature was 101.5° F. and the pulse 80. A tender tense swelling could be felt in Douglas's pouch. Under general anaesthesia an incision was made in the posterior fornix of the vagina, and a large collection of thin, stinking pus and a loose faecal concretion were evacuated. A drainage tube was inserted. The presence of the concretion in the pus confirmed a diagnosis of appendicitis.

The next day (January 28th) the temperature was normal and the bowels were opened well after a soap enema. On January 29th the distension recurred; there was some forcible vomiting. A small amount of flatus was passed after giving eserine and pituitrin. The next day the distension was very great. Vomiting continued, forcible and in moderately large quantities. No flatus resulted after repeated injections of eserine and pituitrin and turpentine enemata. The pulse had risen to 96, and the patient was obviously very ill.

Second Operation.

Right paramedial laparotomy was performed. Very distended and intensely congested coils of small bowel were found, with patches of lymph gluing them together in places, up to the level of the umbilicus. The transverse colon was empty and not inflamed. The small intestine was incised at two places, and gas and liquid contents evacuated. The incisions in the bowel were closed. A loop of the middle or lower part of the jejunum, which was distended and somewhat inflamed, was anastomosed (side-to-side) with the middle of the transverse colon. A cigarette drain was inserted down to the pelvis and the laparotomy wound closed. Two pints of glucose in saline solution were given intravenously.

On February 1st flatus passed in quantities; there was less distension. The following day there was a good liquid result from enemata, and on February 3rd good natural reliefs; there was still less distension.

On February 6th there had been no vomiting since the operation a week before. There was still considerable distension of the lower abdomen. Stools were frequent and loose. There was some pyrexia, and the tongue was dry and raw, but the patient was taking nourishment well. She was obviously suffering from septic absorption, and antistreptococcic serum was given. On February 12th there was still some pyrexia; the tongue was still dry and raw. Antistreptococcic serum was given. Two days later a stinking left ischio-rectal abscess was opened.

By February 18th the general condition had improved; the abdomen was quite soft, and there was no distension. The next day the tongue was moist, and she was taking food well. The bowels acted two or three times daily.

On February 22nd the patient had sudden acute diarrhoea, and she was very ill. The tongue was dry and raw. Two pints of glucose in saline were given intravenously. A large slough was discharged from the ischio-rectal abscess. The next day she was semi-conscious. Three pints of glucose in saline were given intravenously.

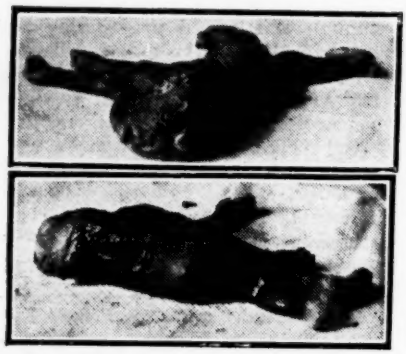
The patient died on February 24th.

Memoranda:

MEDICAL, SURGICAL, OBSTETRICAL.

ANENCEPHALIC FOETUS.

THE following outline of a somewhat unusual occurrence is perhaps of general interest. I was recently called by a midwife to the confinement of a multipara, aged 29, and on examination I found a hand presentation. I administered an anaesthetic, and, on inserting my hand into the vagina, a small foetus was suddenly expelled. Its length was 8½ in., and it presented a most curious, and at first glance an ape-like, appearance, with long arms extending to the lower third of the legs, long fingers, narrow heels, and broad toes. It was anencephalic, and the skin over the dorsal region was transparent, showing a cuirass-like appearance of the vertebrae and rudimentary ribs. The mouth was open, with the tongue protruding; the penis and scrotum were only slightly developed. A pale-coloured small placenta followed. On further examination another hand was felt, and in a short time a well formed seven months male child was born alive, followed by a normal healthy placenta; this child, however, lived only one hour. The woman had had three confinements, all of which were normal, with living healthy children. Her mother had borne twins, and the husband's first wife died after giving birth to twins—all the children being healthy. The accompanying illustrations are reproduced from photographs of the abnormal child taken shortly after its birth.



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A CASE OF ACUTE GENERAL TETANUS.

THE following record of a boy who recovered from severe general tetanus seems of sufficient interest to merit publication. A similar case, in which recovery from tetanus took place after treatment with antitetanic serum and chloretone, was reported from the Royal Surrey County Hospital, Guildford, in this JOURNAL in 1910 (vol. ii, p. 1402) by Mr. R. A. Hobbs and Mr. E. W. Sheaf.

A boy, aged 14, injured his hand with a toy pistol on January 8th. Eight days afterwards spasms of the jaws were observed. When admitted to hospital, on January 19th, trismus, risus sardonicus, and opisthotonos were marked. Spasms occurred every few minutes. There was a small punctured wound in the left hypothenar eminence.

Before admission 15,000 units of antitetanic serum had been injected into the theca and 3,000 subcutaneously. A further dose of 3,000 units was given subcutaneously on admission, and the boy was placed in a dark room away from all external stimuli. The wound was excised and oxygen bubbled into the surrounding tissue.

Morphine, chloral, paraldehyde, and bromides were tried during the following two days, but failed to relieve the spasms, and chloroform anaesthesia had to be produced on three occasions. On the third day large doses of chloretone were given by the rectum, and the spasms ceased almost entirely. This treatment was kept up for nine days—sometimes as much as 90 grains of chloretone being given by the mouth in twenty-four hours. If discontinued the spasms recurred, but on repetition of the drug calm sleep supervened. No toxic symptoms were noticed.

During the first nine days antitetanic serum was given daily (5,000 units subcutaneously and intramuscularly). On the tenth day both the chloretone and the antitetanic serum were discontinued, and no further spasms ensued.

I am indebted to Dr. Arthur Saunders for his permission to publish this case.

The chief points of interest were the remarkable manner in which the spasms were controlled by chloretone, and the rarity of recovery after such a short incubation period.

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London, W.6

Reports of Societies.

THE PLEA OF INSANITY.

AT a meeting of the Medico-Legal Society held in London on May 19th, with the President, Lord Justice ATKIN, in the chair, Dr. LIONEL A. WEATHERLY read a paper entitled "The medical aspect of some murder cases in which insanity was the defence."

Dr. Weatherly said it was well known that ever since 1843, when the four judges made the rule which was still the law regarding criminal responsibility of the insane, the medical experts in mental diseases had unanimously objected to this rule as being unscientific and unjust to many an insane criminal. They must, however, recognize that criminal responsibility was a purely legal question, and that the law, which was the formal expression of the will of the community, was the sole authority in defining this responsibility. But while the law had more or less stood still for generations, medicine was a science which was ever advancing; it was now able to show how disease could affect the intelligence, the imagination, the reasoning power, and also the affective side of what was called mind—namely, the emotion and the will—affecting it in such a way as to make the ruling by which criminals were judged at the present time, when insanity was the defence, unsound and unfair. Personally, he deprecated heated arguments regarding the M'Naghten rulings between law and medicine. What both lawyers and doctors desired could only be justice to the prisoner and the safety of the community. Alienists should study carefully the interesting evolution of the legal rulings, and lawyers should do their best to gain a knowledge of the diseased mind in the fullest application of that term. Had the four judges who laid down the M'Naghten rulings lived for a few days in the wards of any of our mental institutions they would have given very different answers to the questions submitted to them. Excluding idiots, imbeciles, and many chronic dements, they would have found very few of the inmates of whom they could confidently state they had no proper knowledge of right and wrong. Those judges would have seen cases of general weakening and deficiency of the intellectual powers, of the will, and of the control of emotions, where the subjects were yet capable of distinguishing right from wrong. They would have conversed with patients with delusions, hallucinations, and illusions of one or more of the senses, and yet with a clear knowledge of right and wrong. They would have had pointed out to them patients who at times were subject to transitory fury, or who reasoned insanely on sane premisses, or vice versa, and yet all these patients would have that knowledge which made them in the eyes of the law of the land responsible beings.

Medical experts were often accused of showing distinct bias in their evidence in these cases, and it might be that some were too emphatic in their statements; but it must not be forgotten that if a medical expert, with years of experience of mental diseases, was satisfied in his own mind from his examination of the prisoner and of his whole history that he was insane, he had that feeling so well expressed by the American counsel Mr. W. H. Seward: "I should be guilty of murder if in my present relation I saw the executioner waiting for an insane man and failed to say and failed to do what in my belief the law allowed." The task of the mental expert was more difficult than that of the pathological expert. The mental expert was not able to produce microscopic slides showing the abnormality in the prisoner's brain cells, nor could he give any arithmetical data as to the underweight and the will power of the prisoner; he could not demonstrate the prisoner's emotion in a glass bowl and prove to the jury that, while healthy emotion should be pure white, the prisoner's was of a dirty yellow colour. It had often been said that the mere fact that doctors would go into the witness-box and give evidence diametrically opposite minimized the value of the evidence given by the alienists in these trials, but surely this was not true reasoning. Judges even differed in their opinion of law, and judgements were often upset in the Appeal Court, and again by the House of Lords.

They had recently heard the Lord Chief Justice's emphatic statement that the Appeal Court would hesitate long before it transferred to medical experts the determination of questions upon which the jury, after listening to conflicting views, had arrived at a unanimous conclusion. They must all heartily endorse that statement, which, to his mind, showed the necessity of some alteration in the existing law regarding insanity as a defence. Did it not often happen that the evidence given in a court of justice by an alienist that the prisoner was suffering from a mental disease was ridiculed, or his opinion very much discounted, and yet that same alienist was able to record an opinion in the condemned cell upon which the Home Secretary was able to override the unanimous verdict of the jury, and to save the condemned prisoner?

Dr. Weatherly detailed a number of cases in which he had been personally concerned where the plea of insanity was raised by the accused; he believed that it would be better to do away with any distinct and rigid definition of what constituted responsibility in these cases. No fresh shibboleths were needed, each case should be tried on its merits, and the defence should prove to the satisfaction of the jury (*a*) that the prisoner was suffering from a mental disease, and (*b*) that the crime was the outcome of such disease. There was no doubt that alienists recognized that there were degrees of responsibility, and he for one had long urged that English law should copy that of other lands and recognize degrees of the crime of murder. Some judges had made statements to the jury to the effect that the occupants of the jury box were quite as capable of gauging the prisoner's mentality as were the alienists who had given evidence. This implied that the man in the street knew quite as much about mental disease and all its ramifications as did those medical men who had devoted their lives to the study of the insane mind, who had lived with the insane, summered and wintered them. This Dr. Weatherly described as unfair, untrue, and illogical.

The PRESIDENT said that medical men were not always at one on the initial question whether there was or was not mental disease, but he strongly adhered to the recommendation of the committee over which he himself had presided that if the accused committed crime under an uncontrollable impulse by reason of mental disease, he ought not to be held legally responsible.

Other speakers were Messrs. BARRY O'BRIEN, T. SIMPSON PEDLER, and C. PILLEY, and Drs. T. B. HYSLOP, CRESWELL, and FINUCANE.

Proposed Central Medico-Legal Institute.

Lord Justice ATKIN announced that the council of the society was considering the establishment in London of a central medico-legal institute for England and Wales, and a committee had been formed with Sir Bernard Spilsbury as secretary, and Sir William Willcox, and Messrs. Danford Thomas, Roland Burrows, and Webster, as members. The general idea was to establish a central institute where research work could be carried on, pathological inquiries made, and medico-legal experts brought together for the purpose of assisting in the solution of problems, especially in relation to crime. It was possible, with the help of the hospitals who thought it desirable to enter into the scheme, that medico-legal teaching would be available under highly trained teachers. A meeting for discussion of the whole subject would be held on Tuesday, June 23rd.

A MEETING of the London Association of the Medical Women's Federation was held on May 8th at the London School of Medicine to entertain the council members of the federation; demonstrations were given by various members of the staff of the school. Professor WINIFRED CULLIS demonstrated the action of certain drugs on the isolated mammalian heart, and the production of arrhythmia by section of the *a-v* bundle. Miss M. BOND, M.Sc., communicated the results of her investigations into the content of vitamin A in bacon fat, which is largely used in the dietary of children Miss D. WOODMAN showed slides indicating that feeding rats with parathyroid inhibits thyroid action. Dr PILLMAN WILLIAMS demonstrated the methods of blood group determinations. Microscopic preparations of foetal tissues were exhibited by Professor M. F. LUCAS KEENE and Dr. E. E. HEWER to illustrate some points regarding the correlation between the structural changes in the organs of the foetus with physiological activity. Miss M. WALLER demonstrated emotive response to stimulation. A demonstration was given by the National Institute of Industrial Psychology of various psychological tests. Examples of the best known varieties of linguistic and performance intelligence tests were given, and general tests for "manual dexterity" and "mechanical ability" in connexion with vocational guidance. Some tests which are being used for vocational guidance and selection were illustrated, and also tests employed in the selection of engineers, weavers, clerks, and packers; these tests had been devised by the institute at the request of industrial firms.

Reviews.

TWO HANDBOOKS OF OBSTETRICS.

THE sixth edition of Dr. EDEN'S well known and standard *Manual of Midwifery*[1] has been brought out by Dr. EARDLEY HOLLAND, who is responsible for the changes made in it. These are conveniently summarized by him in the preface. Perhaps the most important are the rewriting of the section on the toxaemias of pregnancy, the addition of a new section on diseases, injuries, and death of the foetus, and of another short new section dealing with the statistics of the maternal mortality of childbirth.

The section on toxaemias shows a thoroughly judicial weighing of the present views upon this complex subject. Dr. Holland, not unnaturally, leans to the placental theory of causation, but perhaps he discards too completely—on laboratory evidence—the possibility of a metabolic auto-intoxication as at any rate a possible predisposing factor.

The space given to the time-honoured teaching of the mechanism of labour is comparatively scant. It is rather the fashion of the moment to make less of this than was done in the teaching of a previous generation, and from the point of view of the instruction of the student we are disposed to think the change is not for the better. The anterior and posterior rotation of the occiput in occipito-posterior positions is dealt with in a way that is scientifically quite logical, but the result is calculated to be confusing to the student, as it lacks unity or continuity. We cannot agree with the editor's advocacy of version in preference to manual rotation in persistent occipito-posterior cases in multiparae with the head above the brim; no reference is made to rotation by forceps, which, although admittedly more risky to the foetus than manual rotation, is yet in careful hands a most valuable method of delivery, and one which deserves serious discussion in any textbook of this standing. The section on breech cases is good, and we are glad to find emphasis laid on the value of preliminary perineotomy in primiparous breech cases. Of scopolamine-morphine narcosis the editor is apparently but a tepid advocate, and he makes no reference to quinine (and *a fortiori* none to glucose) as a uterine stimulant in labour.

Placenta praevia and accidental haemorrhage are discussed in a way which brings out their common factors clearly. This is in keeping with modern research, even if it does not make their study easier for the student. The section dealing with the infant and its injuries and diseases is admirable, as might be expected from one who has devoted so much study to the subject. The pleas for the recognition of pulmonary respiration as the sign of "livebirth"; for the use of the term "deadbirth" where the foetus dies without breathing, even although its heart is beating at birth; and the use of the term "stillbirth" as synonymous with "asphyxia neonatorum," are sound, and it is to be hoped that medical writers, and especially medical jurists, will adopt these definitions. In the operative section we are glad to see that the methods of accouchement forcé are dismissed in a paragraph as operations "of great gravity, in comparison to which Caesarean section is simpler, safer, equally expeditious, and applicable to all conditions." The description of the operation of Caesarean section is very clear, but it seems out of place to devote five pages to

[1] *A Manual of Midwifery.* By Thomas Watts Eden, M.D., C.M.Edin., F.R.C.P.Lond., F.R.C.S.Edin., and Eardley Holland, M.D., B.S.Lond., F.R.C.P.Lond., F.R.C.S.Eng. Sixth edition. London: J. and A. Churchill. 1925. (Demy 8vo, pp. xii + 704; 393 figures, 7 plates. 21s. net.)

pubiotomy and symphysiotomy, which for the second time in their history are nearly obsolete procedures.

We congratulate the authors most cordially on a very excellent volume, which gives an admirable representation of the present position of obstetric science in this country. In our view Dr. Holland has made the book rather more of a practitioner's and rather less of a student's textbook, but, that criticism apart, he has distinctly enriched an already valued and tried guide to midwifery.

DR. HASTINGS TWEEDIE'S *Practical Obstetrics* has for some years had a definite place in the obstetrical literature of this country, and the call for a fifth edition[2] since 1908 is evidence of this. It is regrettable to learn from the preface that a serious defect in Dr. Tweedie's sight has considerably handicapped him, but he is to be congratulated on having secured the collaboration, not only of Dr. G. T. WRENCH, who was jointly responsible with him for one or two of the previous editions, but also of Dr. BETHEL SOLOMONS, who, as a teacher and consultant, is thoroughly familiar with the latest changes in the views upon matters obstetrical. With regard to the subject-matter of the volume, nothing need be said except that this edition fully maintains the high standard previously set. The appendix again contains a valuable series of statistics based upon the experience of the Rotunda Hospital. There is also an appendix expounding Stroganoff's treatment of eclampsia, and a short article giving Dr. Tweedie's personal and rather uncommon views as to the origin of the lower uterine segment. So far as our recollection serves, these were all in the last edition, and the two latter articles might, one would think, have been incorporated in the body of the book—always provided the author thinks them suitable.

The last appendix is entitled "Haemorrhagic shock," and deals with the exceedingly interesting subject of the profound shock associated with comparatively small internal haemorrhages in concealed accidental haemorrhage and ruptured tubal pregnancy, etc. Dr. Hastings Tweedie's views have always been strongly individualistic, and as such both welcome and refreshing. But in this article his reasoning seems to be questionable and to require support from much more in the way of carefully observed facts than are provided, before it can be accepted. For its acceptance would, as the author cheerfully points out, involve the scrapping of the universally accepted teaching as to the danger of extracting a child from an inert uterus. Revolutionary and subversive teaching of this sort requires to be justified up to the hilt before it can be accepted, and it is interesting to notice that Dr. Tweedie or his collaborators very wisely adhere to the traditional teaching on this matter in the chapter on uterine inertia. Dr. Tweedie attempts to forestall criticism on his views in the form of "unsupported expressions of opinion," while welcoming further "facts and logical deductions." Certainly these latter are needed, but the author cannot in this way and by his own statement place himself beyond the range of legitimate criticism; and we must respectfully express considerable scepticism.

DIAGNOSIS AND TREATMENT OF SYPHILIS.

THE discovery of the causal organism of syphilis, the development of a satisfactory laboratory method for the diagnosis of the disease, and the elaboration of a chemical preparation for its treatment, together formed an enormous contribution to scientific and practical medicine. None of these three great advances was sudden: the way was prepared for each. All of them in turn formed the starting point of further research.

The monograph by BROWNING and MACKENZIE entitled *Recent Methods in the Diagnosis and Treatment of Syphilis*, which has now reached a second edition[3] and has been so extensively rewritten as to constitute a new work, is the only book we have that leads the student through all these varied researches. So voluminous is the literature on the mechanism of the Wassermann reaction alone that few can claim to be conversant with the major part of it. Useful as this reaction has proved in clinical practice, its underlying principles are not wholly understood, and if reliance is to be placed upon it we must have an appreciation of the extent to which each factor in the reaction varies and the methods by which the variations can be controlled. Professor Browning has omitted no contribution of any consequence, and this alone, quite apart from his own researches and the critical judgement he has brought to bear on the numerous problems, makes the book invaluable to other laboratory workers in all that pertains to serology. His association, too, with Ehrlich in the investigations that led to the development of salvarsan makes him an able guide in the exposition of the chemotherapeutic researches.

The first four chapters are devoted to a consideration of the *Spirochaeta pallida*, its characteristics, its pathogenic properties and biology, and the tissue changes it produces. In eight chapters each separate constituent of the Wassermann reaction is extensively studied. The immense amount of work and experiment that this has entailed will be appreciated by everybody, and fellow workers will find these chapters a mine of information. The flocculation reactions, the examination of the cerebro-spinal fluid (ably written by Dr. J. Cruickshank), and the clinical application of the investigations, form other chapters which for thoroughness, critical judgement, original observation, and intelligible presentation, could not well be surpassed. Dr. Mackenzie is responsible for the clinical section, and gives a general survey of the results of treatment.

Mainly intended for pathologists, the book will not be unwelcome to the practitioner who desires to be conversant with the scientific basis on which modern diagnosis and treatment are built.

ATLAS OF URINARY CALCULI.

PROFESSOR NAKANO of the University of Tokyo has produced a fine atlas of urinary calculi.[4] The figures, based on nearly four hundred in number, have been selected from more than six hundred specimens, and are comprised in thirty plates, most of which are executed in colour photography. The process lends itself admirably to the representation of calculi, their external form, colouring, and detail in section being depicted with very close approximation to the natural appearance. The main incentive to the production of the atlas appears to have been a desire on Professor Nakano's part to ascertain the process of formation of urinary calculi, and for six years he devoted himself to this study, partly by experiment, and partly by the examination of microscopic sections of calculi. Of the latter he has studied no fewer than a hundred and forty, varying in thickness from 5 to 20 microns. In this way he has investigated the action of polarized light, the crystalline form and mode of deposit of the crystals; further, the nature of the radial and concentric striations, and the origin of fissures, or spontaneous fractures so called. He has also undertaken a quantitative and qualitative chemical analysis of nearly six hundred calculi and estimated their organic constituent. Details of these investigations are given in the text. The author has made a special point of comparing the process of formation of urinary calculi with that occurring in ordinary mineral deposits; he finds many analogies between the two and is inclined to regard them as practically identical. His conclusions as to the origin of calculi are that the organic constituent is not essential to their formation but is a secondary product arising from contamination with albuminous matter, thus opposing the view of Ebstein, who held that no urinary stone could be produced without some organic substance; further, that a calculus may form in perfectly normal urine; and that there must be a definite nucleus possessing irregularities of surface or other qualities which would allow of a deposit occurring around it. With

[2] *Practical Obstetrics.* By E. Hastings Tweedie, M.D.Dubl. (Honoris Causa), F.R.C.P.I., and G. T. Wrench, M.D., in collaboration with Bethel Solomons, M.D., F.R.C.P.I. Fifth edition. Oxford Medical Publications. London: Humphrey Milford, Oxford University Press. 1925. (Demy 8vo, pp. xvi + 617; 159 figures. 21s. net.)

[3] *Recent Methods in the Diagnosis and Treatment of Syphilis.* By Carl H. Browning, M.D., D.P.H., and Ivy Mackenzie, M.A., B.Sc., M.D. With an Introduction by Robert Muir, M.A., M.D., F.R.S. Second edition. London: Constable and Co., Ltd. 1924. (Demy 8vo, pp. xxii + 537; 5 plates. 42s. net.)

[4] *Atlas der Harnsteine.* Von Dr. H. Nakano. Mit einem geleitwort von Professor Dr. V. Blum. Leipzig und Wien: Franz Deuticke. 1925. (Med. 4to, pp. xvi + 23; Atlas pp. 45; 364 figures, 30 plates. Grundzahl 30.)

regard to the albuminous matter, it is admitted that its presence favours the formation of a calculus by promoting adhesion between the inorganic particles. As an example of the formation of a calculus in normal urine, the author mentions the case of vesico-vaginal fistula in which a stone formed round a partly separated suture, the urine being perfectly normal. To show that some foreign bodies may not serve as nuclei, a case under Professor V. Blum is quoted, in which a metallic fragment had remained in the bladder for three months without becoming encrusted and without producing any ill effect beyond slight catarrhal cystitis.

NOTES ON BOOKS.

In our issue of July 19th, 1924, Professor R. T. Leiper drew attention to the unsatisfactory treatment of parasitology in the various standard public health textbooks. It is unfortunate that the author of the latest publication on *Parasitology for Medical Students*[5] should not have thoroughly digested that article before he wrote his book. Its scope is wide, for the arthropods, helminths, protozoa, and fungi are considered in some 140 pages, but the treatment is inadequate; many of the statements are misleading, some are inaccurate, and others are confusing. Thus, for example, the term "bug" is used in a loose manner; and the reader might be led to suppose that the bed-bug is the normal carrier of South American trypanosomiasis. In the helminth section, the author might lead the reader to believe that "brood capsules" and "daughter cysts" in hydatid are the same thing; and that the diagnosis of dibothriocephalus infection is normally made by finding segments in the stool. There is a lack of proportion in the selection of the various parasites for discussion. For example, the preface states that the work will deal with parasites of practical importance from the point of view of the physician: yet two pages are devoted to the consideration of *Fasciola hepatica*, which is a very rare human parasite, only infecting man by accident, while much more important human flukes are ignored. The illustrations in half-tone are poor and of little or no value to the student. Those of the helminth eggs are especially unsatisfactory; and surely the male *Ancylostoma duodenale* depicted on page 83 is a necator? The terminology is mixed. In some cases the correct name is given; in others, if quoted at all, it is given as a synonym. We fear it must be said that the book falls below the standard attained by others in the series of the Oxford Medical Publications.

The twenty-seventh edition (the thirteenth for publication) of *Rules for Compositors and Readers*[6] has appeared. The rules laid down in this little book were originally intended for the use and guidance of compositors and readers at the Clarendon Press, Oxford. After a while copies found their way into the hands of authors and editors of books and periodicals, and readers and compositors in other printing offices began to ask for copies. These were supplied free of charge. By and by applications were made by persons other than those for whom the book was intended, but as many of these held positions under Government (either at home or abroad) the practice of presentation was continued. Then it became known that copies were on sale in London, and it was felt that there was no alternative but to publish the book. The fact that it has run through so many editions is proof of its usefulness, not only to those for whom it was originally compiled, but to all engaged in literary work. From time to time additions and slight alterations have been made in the *Rules*. Those in the twenty-seventh edition include a large number of medical terms and the recommendations of the Society for Pure English as to the printing of foreign words in common use in this country. We are more particularly interested in the list of spellings for use in medical works (pp. 25–32), and, though perhaps not altogether content with the arrangement of the "Words with Hyphens" and "Words without Hyphens," believe that this list will be of value to those engaged in preparing medical books for publication, and hope that its circulation may tend to eliminate the atrocities too often met with in the lay press. It is not altogether easy to follow the lines laid down for the use or omission of the hyphen. Why (to take only an example or two among many) should "cardio-gastric" and "cervico-dorsal" be printed with a hyphen, and "glossopharyngeal" and "sternoclavicular" without? Many of the terms would be better expressed as two words—as "heart sounds," "bile passages," "blood content," "blood volume," to mention only a few. The list seems to be remarkably free from actual errors; there are, however, a few terms we do not remember having seen before—as, for example, "hydrogenotransportases," "naphthglamin," and "urobilinogenuria"; it is to be hoped that the too conscientious compositor or reader will not substitute this last term for "urobilinuria," which is not in the list. We suspect that the last word on page 31—"sensorimeter"—should be "sensorimotor"; vitamin appears with a final *e*. The list, though not very comprehensive, is likely to be of value to those printers who have only an occasional medical work to produce, and whose readers would be lost without a guide to terms rarely met with in general work. The new edition of the *Rules* has apparently been revised under the direction of "F. J. H."—the initials, we assume, of the present printer to the University of Oxford—who is to be congratulated on its appearance.

The volume on *Pediatrics*,[7] edited by Dr. ISAAC A. ABT with the collaboration of Dr. JOHANNA HEUMANN, forms part of the "Practical Medicine Series," which consists of eight books issued at various intervals during each year under the general editorship of Dr. CHARLES L. MIX. The present volume, which, as we learn from the introduction, has for more than twenty years shared its pages with orthopaedics, now appears for the first time as a separate volume devoted exclusively to pediatrics. The book contains an excellent summary of the world's work in the medical diseases of children, accompanied by judicious editorial comments; it should prove a useful guide.

The second instalment (Caju-Geflügel) of the lexicon of nutrition,[8] edited by Professors E. MAYERHOFER and CLEMENS PIRQUET, of which the first part was noticed by us last year (JOURNAL, February 9th, 1924, p. 242), has recently been published. The subjects discussed include among others Carême (the celebrated Parisian gastronomist), Chinese nutrition, diabetic diet, eggs, fever diet, Finkelstein's scheme of nutritional disorders in the infant, fish, meat (*Fleisch*), and fowl. The work will appeal to all who take a scientific interest in food problems.

[5] *Parasitology for Medical Students.* By Alex. Mills Kennedy, M.D.Glas. Oxford Medical Publications. London: Humphrey Milford, Oxford University Press. 1925. (Demy 8vo, pp. x + 142; one coloured plate; 61 figures. 10s. 6d. net.)

[6] *Rules for Compositors and Readers at the University Press, Oxford.* By Horace Hart, M.A. The English spellings revised by Sir James A. H. Murray, M.A., D.C.L., LL.D., D.Litt., and Henry Bradley, M.A., Ph.D. Twenty-seventh edition (the thirteenth for publication). London: Humphrey Milford. 1925. (3½ × 5½, pp. 135. 2s. net.)

[7] The Practical Medical Series, under the general editorial charge of Charles L. Mix, A.M., M.D. Vol. IV. *Pediatrics.* Edited by Isaac A. Abt, M.D., with the collaboration of Johanna Heumann, M.D. Series 1924. Chicago: The Year Book Publishers. 1925. (Cr. 8vo, pp. 381; 27 plates. 2 dollars.)

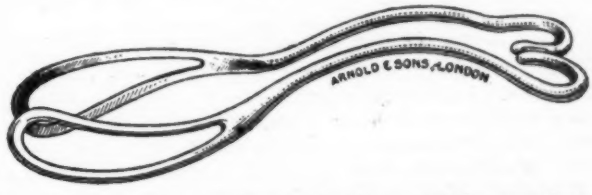
[8] *Lexikon der Ernährungskunde.* Herausgegeben von Dr. E. Mayerhofer und Dr. C. Pirquet. 2 Lieferung. Wien: Julius Springer. 1925. (Sup. roy. 8vo, pp. 191. G.M.7.)

MEDICAL AND SURGICAL APPLIANCES.

Improved Assalini Midwifery Forceps.

DR. E. H. BOTHAM (Skelton-in-Cleveland) has designed a modification of Assalini's forceps for which he claims that it retains the good points possessed by the original Assalini instrument, one of which is its adaptability to the modification proposed, and possesses the additional advantage presented by the backward curve of the handles, by which the forceps are given an axis-traction effect in the simplest possible manner, and without any additional apparatus in the form of traction rods, etc. As traction is applied to the extreme end of the handles the full value of the backward curve is obtained.

The good points already possessed by the original Assalini instrument appeal chiefly to the general practitioner, who conducts his confinements with his patient in bed, and not on an operating table. Difficulty is encountered in passing the upper

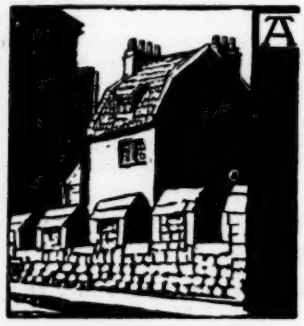


blade with the lower one already in place, until by experience a better method than is taught to students has been learnt. With Assalini forceps there need be no difficulty with the upper blade, which is passed first horizontally in front of the sacrum and then rotated carefully into its proper position. The nurse can then hold it well back while the lower blade is passed into place. This manœuvre is not impossible with ordinary forceps, but to make it easy the lock should be reversed.

There is one more advantage which is quite important. The ordinary pattern of forceps can have, in the hands of a vigorous obstetrician, some of the qualities of a cephalotribe. This is undesirable and is avoided by the Assalini instrument.

Messrs. Arnold and Sons (John Bell and Croyden, Ltd.), 50-52, Wigmore Street, London, W.1, are the makers.

NINETY-THIRD ANNUAL MEETING
of the
British Medical Association,
BATH, 1925.



City wall opposite Mineral Water Hospital. (From a wood engraving by Horace Gerrard.)

AS most of our readers are by now aware, the ninety-third Annual Meeting of the British Medical Association will be held at Bath at the close of July, under the presidency of Dr. F. G. Thomson, physician to the Royal United Hospital, Bath, and consulting physician to the Royal Mineral Water Hospital. The Annual Representative Meeting, for transaction of medico-political business and discussion of the internal affairs of the Association, will open at Bath on Friday, July 17th. The statutory Annual General Meeting will be held on the afternoon of Tuesday, July 21st, and on the evening of the same day the new President will deliver his Address to the Association. The twelve Sections, among which the scientific and clinical work of the meeting is being divided this year, will meet on the three following days. The full list of Sections and sectional officers, together with the provisional programme for the Bath Meeting, were published in the SUPPLEMENT to the BRITISH MEDICAL JOURNAL of April 11th, 1925. Further details of the arrangements will appear in later issues. On the last day of the meeting, Saturday, July 25th, there will be excursions to places of interest in the neighbouring West Country. We publish below the second of a series of descriptive and historical articles on Bath.

THE MEDICAL INSTITUTIONS OF BATH.

NOTES BY
JOHN HATTON,
DIRECTOR OF THE HOT MINERAL BATHS.

IN this article are given some brief notes on the Medical Institutions of Bath. Although Bath will not be able to show her guests the vast hospitals, with all their elaborate equipment, which they may have seen in some of the great cities visited by the Association in previous years, Bath possesses medical institutions of unusual character which, it is hoped, will not be without their special interest.

THE ROYAL MINERAL WATER HOSPITAL.

The Royal Mineral Water Hospital will no doubt, by reason of its special character, be the most interesting of the hospitals of Bath. It is in no way a local institution, in the sense of providing for the needs of local patients, but a national hospital for the treatment of rheumatic diseases, established for the purpose of bringing the benefits of the Bath mineral waters within the reach of those who, without some such help, would never be able to obtain the specialized treatment a spa affords.

In the words of the Act of Parliament under which the hospital was incorporated in 1739,

> "Any person resident in and belonging to Great Britain or Ireland, whose circumstances are such that they are not able to have the benefit of the Bath Waters without charitable relief, are entitled, and have a right, to the relief of the Hospital."

So strongly was it held that the hospital was provided for the relief of sufferers from rheumatic diseases throughout the country that four years later it was actually decided that the inhabitants of the city of Bath were not eligible for admission, and for nearly a hundred years the local poor were excluded from the benefits of the charity. The hospital draws its patients from every part of Britain, and even now it is the exception to find amongst them any Bath residents. Patients are admitted without any subscriber's recommendation, and it is only necessary to satisfy the Governors that the person desiring admission is unable to afford the expense of obtaining the treatment otherwise and that the case is one in which the use of the mineral waters is applicable. Patients whose means allow are now, of course, expected to contribute something towards their maintenance.

It is, as one would expect, during that long period when the springs were under the control of the Church, that we find the earliest records of the charitable use of the waters. Bishop Robert, in 1138, founded a hospital for lepers, attaching to it a bath called the Lepers', or Lazours', Bath, which actually existed until the eighteenth century.

But the present hospital may rather be looked upon as the successor of an Act of Queen Elizabeth, dated 1597, which gave to the diseased and impotent poor of England a right to the free use of the baths of Bath, and empowered the justices of the peace in any county to license such persons to travel to Bath, there to be cured of their ailments. The natural result followed, and as Fuller records in his *Worthies*,

> "Many were in that place; some natives there; others repairing thither from all parts of the land, the poor for alms, the pained for ease. Where should fowl flock, in a hard frost, but to the barn door?—here, all the two seasons, being the general confluence of the gentry. Indeed laws are daily made to restrain beggars and daily broken by the connivance of those who make them, it being impossible when the hungry belly barks and howls around to keep the tongue silent. And although oil of whip be the proper plaister for the cramp of laziness, yet some pity is due to impotent persons."

Among the impostors were many genuine sufferers, and in 1716 a movement was started to establish a hospital for their relief. For some time progress was slow, but in 1738 the foundation stone of the new hospital was laid by the Hon. William Pulteney, afterwards Earl of Bath.

Beau Nash threw himself with all his energy into the effort of raising funds, collecting personally more than £2,000 (no small sum in a period which knew neither Lord Knutsford nor Lord Mildmay of Flete). Forty guineas were wiled out of the Duchess of Queensberry at the card table, Nash assuring the reluctant old lady that "Charity hides a multitude of sins." Dr. Oliver was assiduous in his support, Ralph Allen gave the stone from his famous Bath stone quarries, John Wood, the architect, then at the height of his fame, presented the plans, and other notable people of the day gave freely of their time and talents to the promotion of the scheme.

The hospital is proud to have H.M. the King as its Patron, and as its Vice-Patron H.R.H. the Prince of Wales, who visited the hospital in 1923, and last year held the office of President, the third Prince of Wales to occupy that chair.

Originally the hospital contained only night wards, and accommodated, by overcrowding, rather more than a hundred patients at a time. Subsequent extensions provided spacious day wards, and increased the capacity to its present figure of 136.

The hospital has its own suite of baths supplied by the Corporation with mineral water from the hot springs, the hydrological treatments provided including Aix and Vichy douches, Scottish and needle douches, whirlpool baths, reclining and vapour baths, and the deep pool bath. Radiant heat and various forms of electrotherapy, massage, and remedial movements, by machines of the Zander type, are also employed.

Since its foundation the hospital has treated 104,600 patients. During each year about a thousand cases pass through the wards. The number for the quinquennial period 1920 to 1924 was 5,904, of whom 93 per cent. were discharged as "cured or relieved."

The Mineral Water Hospital has always shown a warm interest in wounded and invalided soldiers. Early in 1747 the Governors made special arrangements for the admission of those who had been maimed or wounded "in the recent rebellion in Scotland." During the Crimean war several soldiers were admitted at the request of the Director-General of the Army Medical Department, who wished to try the efficacy of the mineral waters in the treatment of diseases brought about by active service, and the hospital records show that 75 per cent. were discharged as "recovered or benefited." During the South African war twenty beds were placed at the disposal of the War Office, and 112 men were treated, Lloyd's Patriotic Fund making a grant of £50 to the hospital in recognition of the benefits these men derived.

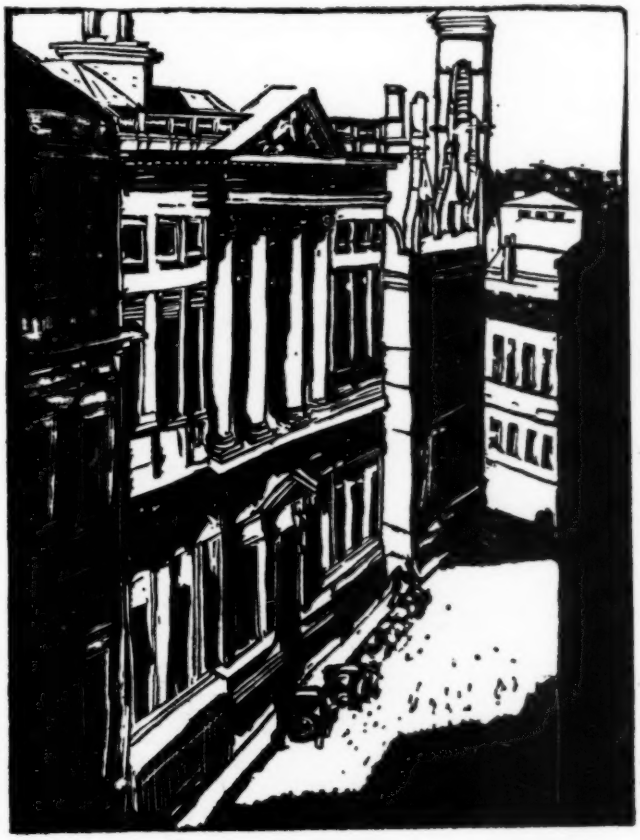
At the outset of the great war the Governors offered the whole accommodation to the War Office for the use of soldiers, but in acknowledging the offer the Secretary of State considered that the regular work of the hospital should, as far as possible, be maintained. The army medical authorities were, however, glad to make use of the special facilities the hospital provided, and during the war, and in the period immediately following, 4,968 sailors and soldiers were admitted. Most of them were benefited, and many were enabled to resume active service. A limited number of Belgian soldiers were received. On arrival many of these could hardly move hand or foot, but they improved rapidly, and many returned to duty.

In 1914 a new Pathological Laboratory was opened by Sir William Osler, who drew particular attention to the large field provided for research in the cases passing through a specialized hospital such as this. On his recommendation a medical library was established in connexion with the laboratory.

Generous supporters, notably the present Mayor, Alderman Cedric Chivers, have enabled important investigations to be carried out, and work has been done, especially in connexion with the various classes of fibrositic and arthritic (including gouty) patients, who form the majority of admissions. These include some hundreds of blood counts, a systematic investigation of the behaviour of blood serum towards streptococcal antigens in complement fixation tests; basal metabolism, vital capacity, blood contents of glucose, creatinin, uric acid and calcium, glucose tolerance and urea concentration, and other biochemical features. Work has also been done on calcium metabolism in cases of osteo-arthritis and spondylitis.

Thus, in the research work of to-day the hospital is very definitely fulfilling one of the objects of its promoters. For in the original advertisement of the hospital in 1737 it is pointed out that by collecting these rheumatic cases in a hospital—

"It would give the Physician a sufficient opportunity either of doing them all the service their case would admit of or of making observations for the future benefit of others. A few years will furnish more Histories of Cases, which may be depended on, than any Man's private practice would have done in an Age."



ROYAL MINERAL WATER HOSPITAL.
(From a wood engraving by Horace Gerrard.)

THE ROYAL UNITED HOSPITAL.

In its present form the general hospital of Bath—the Royal United Hospital—dates from 1826, when the central block was opened, but, as its name indicates, the hospital represents the union of two old charities, the Bath Pauper Charity, founded in 1747, and the Casualty Hospital, which was opened at 38, King's Mead Street, on January 1st, 1788. At one period of its history the older institution, under the title of the Bath City Infirmary and Asylum, was located in the residence formerly occupied by Dr. Samuel Bave, a native of Cologne, who practised in Bath for thirty years and died in 1668.

In 1864 the Albert Wing was built in memory of H.R.H. Prince Albert, another story, called the Prince of Wales Ward, being added to this wing in 1891 to provide accommodation for children. In 1914 the hospital was further improved by the reconstruction of the out-patient department and the provision of *x*-ray and other modern departments. At the present time the old *x*-ray apparatus is being replaced by an entirely new installation.

The hospital, which has 140 beds and averages over 8,000 cases a year, draws its patients not only from Bath, but from an extensive area comprised within a radius of some twenty miles of the city, embracing the mining district around Radstock, the Bath stone quarries of Box and Corsham, the woollen factories of Trowbridge, and the rubber works of Bradford-on-Avon. Last year (1924) 2,224 in-patients were admitted, 83 patients were visited at their own homes, and 5,849 out-patients were treated—a total of 8,156. During the year there were 1,584 operations.

The hospital occupies a position in the centre of the city which does not allow of any further extension, and the only practicable solution of the problem of meeting increasing demands will be removal to a less congested site.

Like all similar institutions, the Royal United Hospital has had its financial embarrassments, and a couple of years ago the situation was very serious. The friendly societies of the city then devised a scheme of collecting boxes combined with a pledge of a weekly contribution of not less than twopence. Taken up readily in the city and the surrounding districts, exceptionally well organized and worked with enthusiasm by the energetic members of the friendly societies, the scheme is yielding an annual income of £5,000 which shows every sign of being maintained.

The hospital has ever been fortunate in its honorary medical staff, but there will be no disparagement of other good men in saying that the name of Caleb Hillier Parry, physician to the Casualty Hospital from 1800 to 1817, stands pre-eminent. Best known to the profession at large for his work in connexion with exophthalmic goitre—which is Parry's just as much as it is Graves's disease—he has left in his published writings and in the notebooks, which are carefully preserved in the library of this hospital, the record of a scientific mind, assiduous in seeking knowledge from personal observation, sound in judgement and gifted with unusual powers of deduction. That these gifts were combined with, or rather found

their fullest expression in, sound therapeutics is shown by his extensive practice and the wide fame enjoyed by this distinguished Bath physician.

THE FORBES FRASER HOSPITAL.

This, together with the Children's Orthopaedic Hospital described below, is the latest addition to the medical institutions of Bath. It was opened by H.R.H. the Duke of Connaught on May 16th, 1924, while that great surgeon and lovable man after whom it was afterwards named was still lying ill.

The Forbes Fraser Hospital forms the beginning of a big scheme formulated by the late Mr. Forbes Fraser, F.R.C.S., in 1920, for the eventual removal of the whole of the Royal United Hospital to the outskirts of the city, where extensions could be carried out on an open site, leaving a casualty station only in the central area, with possibly an out-patient department. In particular, paying wards were to be provided for persons of limited means. This scheme was adopted by the Managing Board and a site of twenty-one acres was purchased at Combe Park, upon which, in 1915, the Bath War Hospital had been built. A portion of the land was leased to the Ministry of Pensions, which had taken over the existing War Hospital, still maintained as a pensions hospital for the South-Western area.

The Forbes Fraser Hospital for paying patients enjoys to the full the advantages of beautiful surroundings and an open airy situation. It is a one-story building of the bungalow type, designed by Mr. Alfred J. Taylor, F.R.I.B.A., and planned in two wings, containing twenty-four private rooms and four wards of twelve beds each, curtained off into cubicles—a total of seventy-two beds in all. There are sun balconies in front of the private rooms and at the end of the wards.

In the central administration block are the medical officer's and matron's quarters, two operating-theatres, kitchen, and store-rooms. A separate building contains the power block, the boiler-house for the hot-water supply, and electric light plant and the laundry.

The fees are £5 5s. a week for a private room and £3 3s. for a bed in one of the wards. In maternity cases the present charge for a private room is £6 6s. weekly. These fees do not include surgeon's or medical practitioner's fees, but entitle a patient to board, nursing, ordinary medicine, and surgical dressings. Additional charges are made for special nurses, massage, special diets, expensive remedies, *x*-ray or other special investigations. In operation cases a theatre fee of 1 guinea is charged for minor operations and 2 guineas for major operations.

The treatment of patients is not confined to the staff of the Royal United Hospital, but is open to all registered practitioners, the only restriction being that no major operation may be performed in the hospital except by a present or past member of the surgical staff of a recognized general or special hospital.

It is believed that this is the first hospital in the country built solely for the accommodation of patients of moderate means, and it is already proving its value. The committee, under the chairmanship of Sir Percy Stothert, K.B.E., has been fortunate in securing several handsome donations, including one of £5,000 from Mr. Stanley Wills, which have enabled a start to be made on the useful addition of a nurses' hostel on a piece of ground of four acres presented by the Mayor of Bath.

ROYAL UNITED HOSPITAL.
(From a wood engraving by Horace Gerrard.)

CHILDREN'S ORTHOPAEDIC HOSPITAL.

It is to the late Mr. Forbes Fraser, Alderman Cedric Chivers (who, as Mayor of Bath, will welcome the British Medical Association to the city next July), and Mr. Walter E. Mallett, the chairman of the Children's Orthopaedic Hospital, that Bath owes this valuable institution. The hospital is intended to serve Bath and the counties of Somerset and Wiltshire.

On a portion of the Combe Park site, providing the essential conditions of sunshine and space, an open-air hospital has been planned containing at present thirty-seven beds and capable of extension. Children up to the age of 16 are eligible for admission, and the organization provides all essentials for treatment, such as the supply of appliances, equipment for surgical operations, massage and other forms of physiotherapy, and investigations by *x*-ray and laboratory methods. In accordance with the requirements of the Board of Education, a qualified schoolmistress has been engaged to carry on the education of the children while in the hospital.

An important part of the scheme is the after-care of the patients. With this object local orthopaedic clinics are being established at suitable subcentres throughout the area to secure the periodical inspection of old cases, provide out-patient treatment, and afford facilities for examination and diagnosis of new cases. Each clinic will be controlled by a local committee in co-operation with local doctors, and a specially trained after-care sister from the central hospital will visit regularly.

BATH EYE INFIRMARY.

Founded in 1811, the Bath Eye Infirmary is one of the oldest provincial institutions of its kind. From small beginnings the hospital gradually grew, moving several times to fresh premises as the work expanded, until it settled in the present building in Belvedere in 1899. The accommodation again proved to be insufficient, and the adjoining house was purchased in 1905 and added to the institution.

The hospital now contains twenty-one beds and one cot. Patients are drawn from a large area—Somerset, Wiltshire, and part of Gloucestershire. Out-patients are treated gratuitously; in-patients are admitted on subscriber's recommendation. The infirmary also treats children attending the schools of the education authority who are sent to the institution through the school clinic.

During 1923, 214 in-patients were admitted, and 2,208 new out-patients. The number of old out-patient attendances was 3,074, an increase in numbers over the previous year. Financial support has always been forthcoming, and although low waters have more than once been experienced the hospital is somewhat unusual in never having been in debt since its foundation over 113 years ago.

BATH EAR, NOSE, AND THROAT HOSPITAL.

The Bath Ear, Nose, and Throat Hospital, the only one in a very large area of the South-West, was founded in the year 1837 in the Walcot district of Bath, under the title of the Bath Ear and Eye Infirmary. The work of the hospital was, however, largely confined to laryngology, otology, and rhinology from the first, and the eye work was handed over to the Bath Eye Infirmary at an early date.

In the year 1914 the hospital was transferred to larger premises in Charles Street, where the work was carried on during the period of the war. At this time the hospital was used for the training of personnel of the 2nd and 3rd Bath Units of the R.A.M.C., known as the South-Western Mounted Brigade Field Ambulance, in hospital duties and the special work connected with ear, nose, and throat.

In 1920 it was found that the Charles Street building was inadequate to cope with the work amongst the civil population, to which was added a large number of soldiers and pensioners

who, till the establishment of the special department at the Bath Pensions Hospital, came to the institution for treatment. The hospital was accordingly moved to its present position in Marlborough Buildings, the Board of Management acquiring the war-time officers' hospital. This forms part of a fine block of old Georgian buildings, commanding an extensive and delightful view over the Royal Victoria Park. Fifty beds and cots were equipped in these premises, the hospital thus constituting one of the largest, as well as almost the oldest, ear, nose, and throat hospital in the country.

Patients are drawn not only from Bath, but from a large area including many surrounding counties. The number of operations performed during the past year was over 500. In-patients numbered 427, and the attendance in the out-patient department was over 4,500.

BELLOTT'S HOSPITAL.

Founded in 1610 by that Thomas Bellott, Lord Burleigh's steward, a munificent benefactor alike of the Abbey and the city of Bath, of whom it was written—

> "Hospitals, baths, streets and highways
> Sound out the noble Bellott's praise,"

this small hospital for poor patients who resort to Bath for the benefit of the waters is now administered by the Municipal Charity Trustees in conjunction with the annuity left by Lady Elizabeth Scudamore for a physician to advise poor strangers as to the use of the Bath waters. There is accommodation for ten patients, who are provided with separate bedrooms, with light and heating, medical attendance, and medicine, the use of the mineral waters, and an allowance of 2s. 4d. a week. Any extra cost of maintenance must be paid by the patients, who must also provide themselves with towels, change of linen, and proper apparel. The cost of maintenance generally amounts to from 15s. to 18s. a week, in addition to the said sum of 2s. 4d.

CENTRAL LABORATORY.

By the joint efforts of the Corporation and the Royal United Hospital a central laboratory has recently been opened under the direction of an experienced pathologist. Here are carried out pathological investigations of all kinds—bacteriological, histological, chemical, etc. The service of the laboratory is available for all local practitioners.

OTHER INSTITUTIONS.

Bailbrook House.—This typical Georgian mansion, dating back to 1791, with the comfort and quiet dignity of its period, is an old-established home for the care and treatment of ladies and gentlemen suffering from nervous and mental disorders, standing on one of the hills overlooking Bath, about two miles distant from the centre of the city, in twenty acres of well laid out and wooded private grounds. There is a special annexe for ladies, Brook Villa, with a separate garden. Attention is particularly given to the curative treatment of early cases.

Kingsdown House at Box, near Bath, is another private mental hospital, for the treatment of mental and nervous disorders.

Lansdown Hospital.—At this hospital, founded under the Jennings Trust to provide skilled nursing and accommodation for all classes, special treatment is given for rheumatic and allied diseases as well as for other cases. The institution is self-supporting, but there is a benevolent fund which is applied to the service of poor patients seeking admission.

Combe Down Convalescent Home.—Accommodation for ten men and ten women is provided by the convalescent home which stands on the high tableland of Combe Down, 520 feet above sea-level. The home is about four miles from the centre of the city, but easily accessible by the electric trams which pass the gates.

Dispensaries.—Three dispensaries, established in the early part of the nineteenth century, are still in use and provide much appreciated facilities for poor people. There is also a Medical Institution under the auspices of a joint committee of the friendly societies, which provides out-patient facilities for their members.

Bath Homœopathic Hospital.—There is a small homœopathic hospital for the treatment of the sick poor and for the training of nurses on homœopathic principles.

MUNICIPAL HEALTH SERVICE.

The annual reports of the medical officer of health indicate the varied activities of the Health Committee of the Bath City Council.

The estimated population of the city is 69,270. During 1924 the number of births was 931, being equivalent to an annual rate of 13.2, compared with 18.8 for England and Wales. The corrected death rate was 11.7 and the infantile mortality was 85; the corresponding rates for England and Wales were 12.2 and 75 respectively.

Maternity and Child Welfare.

The council's scheme for maternity and child welfare includes an ante-natal clinic, the supervision of midwives, a district midwifery service, a maternity home, a health visiting department, infant welfare centres, and the provision of milk to mothers and children. The work is carried on in conjunction with certain voluntary societies on a plan so devised as to allow freedom of action on the part of the societies, with adequate control by the council of expenditure of money from the rates. The voluntary bodies concerned are the Bath Infant Welfare Association, with three branches in different districts, and the Bath District Nursing Institute.

Ante-natal Clinic.—An ante-natal clinic for giving advice to expectant mothers is held weekly at the Rivers Street Maternity Home. During 1924 there were fifty-one sessions, at which 184 new cases were seen by the medical officer. The four city midwives paid 1,229 visits to these mothers at their homes before the confinements, and attended in all 342 births.

Maternity Home.—This home was opened in 1917 with five beds. The nursing arrangements are carried out under the supervision of the matron of the Bath District Nursing Institute, subject to the control of a committee of the council and the general supervision of the medical officer of health. By a suitable financial adjustment with the Nursing Institute the whole of the deficit in the working expenses is borne by the city. During 1924, 100 cases were admitted to the home, and the average stay in days was 15.7.

Infant Welfare Centres.—Three centres have been established, one at Rosewell House, where two consultation clinics are held every week, and one in each of the Walcot and Oldfield Park districts, at which one consultation clinic is held weekly. This work is carried out by the Bath Infant Welfare Association in conjunction with the staff of the Health Department.

School Clinic.—The school clinic is conducted at Rosewell House by the Education Authority, and here all the usual facilities are provided, including an orthopaedic clinic.

Tuberculosis.—The administration of this is under the medical officer of health, but the actual clinical work is carried out by the tuberculosis officers of the Somerset County Council at the Tuberculosis Dispensary at 26, Charles Street.

The Statutory Fever Hospital.—This hospital consists of three wooden blocks for patients, an administration block, a discharge block, and a laundry. It is situated on Claverton Down and stands in eight acres of ground.

WINSLEY SANATORIUM.

This institution, on the breezy high land at Winsley, 400 feet above sea-level, overlooking the beautiful Limpley Stoke Valley some miles from Bath, has been established for tuberculosis patients from Wiltshire, Bath, and Bristol. The hospital is administered by a joint committee representing the three authorities, the Bath Corporation maintaining fourteen beds.

The sanatorium was opened in 1904 for sixty patients, and the original cost, including land, was £32,700. In 1912-13 the institution was enlarged at a cost of £12,000, and accommodation is now provided for 119 patients. During 1924, 371 patients were admitted (219 males and 152 females), the average period each patient remained in the institution being 114.4 days. A tendency has been noted recently for patients to remain in the sanatorium for longer periods, with consequent increased benefit. Since the opening of the sanatorium 6,896 patients have been admitted.

MINISTRY OF PENSIONS HOSPITAL.

The Ministry of Pensions Hospital, easily reached by the Weston tram, which stops at the gate, is a hutted hospital, situated at some height above the city, to the north of the Lansdown cricket ground. It is built of uralite on brick foundations; the building plan is based on a long corridor running east to west, the operating room, physiotherapy department, kitchen, stores, etc., projecting to the north and the wards projecting to the south.

Originally the hospital was the Bath War Hospital, but was taken over by the Ministry of Pensions in 1920. The hospital formerly held 530 beds, but has now been reduced to 369 beds, and part has been handed over to the Orthopaedic Hospital for Children. It treats all classes of male patients who are Navy, Air Force, or Army pensioners, except mental cases and patients with pulmonary tuberculosis, diabetes, and paralysis, for which cases the Ministry has special arrangements. There is an officers' ward, and also a separate ward for dysentery cases. There is a very good *x*-ray department and a modern pathological laboratory, and there is an excellent artificial limb centre for legs, where the most modern artificial limbs are supplied. Artificial arms are supplied from Roehampton.

During the last five years the admissions have averaged annually 100 officers and 2,245 other ranks, and the discharges have averaged 112 officers and 2,255 other ranks; 4,277 operations have been carried out, but the number is rapidly diminishing; nevertheless a considerable number of foreign bodies are still removed.

The medical and surgical staff consists of part-time and whole-time medical officers, the part-time medical officers being some of the leading physicians and surgeons from Bristol and Bath.

The hospital draws its cases from the counties of Devon, Cornwall, Somerset, Wilts, Gloucester, and Dorset, and, in

addition, its cases of tropical diseases from South Wales. There are also occupational workshops where basket-making, carpentry, painting, and sign-writing are taught.

THE HOT MINERAL BATHS.

From the point of view of the visitor to a spa the medical institution of greatest interest is the bathing establishment, and we propose to give a short description of the baths of Bath in a later issue.

In its oldest portion the establishment dates from the first century, and the next article will give some notes about the history of the baths in the early days, as well as a brief account of the hydrological methods now employed in administering the hot springs.

DAZZLING BY MOTOR-CAR LAMPS.

PROTECTIVE DEVICES.

A MEMBER has sent us a pair of spectacles which his motor driver has had made to his order and finds of much assistance in driving.[1] The spectacles are fitted with chloros tinted plane lenses of kidney shape set with the hilum downwards. The effect of these lenses is to give protected vision when looking directly forwards and upwards, but clear unprotected vision below the horizontal level over which the lenses do not extend.

We have referred the device to Mr. N. Bishop Harman, F.R.C.S., who sends us the following note on the general question of dazzling lights on motor cars. There are, in fact, two classes of users of the road to be considered—the drivers of the cars and the pedestrian—to whom may be added, as a subclass, the rider of an ordinary "pushbike." Speaking first of the device submitted to us Mr. Bishop Harman writes:

The idea is very similar to that of some other fittings on the market—for example, bifocal lenses with an upper tinted section, or with a tinted lateral section, and somewhat of the same order as the tinted flaps of glass or celluloid which may be affixed to the wind screen of the car or to the cap of the driver. Of all these protective appliances we have found the last mentioned—the tinted flap attached to the driver's cap—the most useful. This may be turned down over the eyes in a moment, and as rapidly turned back when not needed. Some sort of protection is needed when driving an open car with the hood down, but driving a closed car or one with the hood up is, in our experience, less difficult. When a car with bright, glaring headlamps approaches, we have found that, by sitting up high on the seat instead of lolling back, it is possible to cut off the view of the approaching car and yet see the road for a distance sufficient to drive by the left-hand edge of the road with safety, both to oneself and to possible pedestrians. This device has removed the need for special glasses. Further, evening driving with the hood up is better for other reasons. At twilight the sky may be relatively bright, and so disturbing that the roadway is not easily seen; interposing the hood corrects this and the road is distinctly seen again. None of these measures protects the driver from a more serious and troublesome form of dazzle. The new motor roads are so brilliantly polished that when driving in the direction of the sun the reflection from the road surface is so intense that driving becomes painful in the extreme, as well as dangerous. Tinted glasses, provided the tint be deep enough, relieves this for a time, but not for long; soon the eyes become adapted to the new conditions, and the contrast between the brilliant road and the darkened surrounding parts is as great. Actually the glasses seem to deepen the darkness of the non-reflecting areas, and by contrast make the road reflection worse. Relief from this danger can be obtained by fixing a sheet of cardboard on the lower part of the windscreen so as to cut off the view of the road surface for some distance. Temporary relief can be obtained from transient blinding on a winding road by holding one hand below the eyes so as to reduce the view.

The motor driver is also subject to disturbance from the many reflecting parts of his car fittings upon the dashboard, screen, and bonnet. If he prefers glittering show to comfort then he will put up with the inconvenience; but if, like the doctor, he is driving with a purpose, he will obscure the shining parts with some suitable flat, black preparation.

The pedestrian has not been considered in the foregoing notes, nor has the cyclist. The motor driver owes a duty to these, and so do these to him. Let us consider the duty of the latter first. Every doctor knows that driving at night in the country is made many times more difficult than it should be owing to the necessity for straining the eye to catch sight of almost invisible walkers and cyclists. If these would do but one simple thing motor drivers would be relieved of this strain, and without doubt the gratitude of the driver would redound to the advantage of the other road users. A white cloak, scarf, or armlet, or anything white about the dress, will make the walker or cyclist so conspicuous as to be perfectly safe from the car driver. It has been noteworthy in recent months, during the vogue of the pink silk stockings for girls, how easily their wearers are seen in the light of only the side lamps, whereas their attendant swains in their duller clothing are invisible in the rays of the head lamps! If country people would wear something white at night when on the roads they would be quite safe.

There have been many devices for the protection of other road users from the glare of the car lights; so far none of these has been sufficiently successful and safe to warrant its general use. Many of them are costly, and the cost is not in proportion to their value. We recently read an account of an experimental fitting, which seemed on the face of it to promise a real measure of success, and to be at the same time simple and reasonably priced.

In the April number of the *Morris Owner* (p. 219) there is a letter from a Mr. Gossip of Inverness, with a photograph of a device for which he has taken out a provisional patent. There is affixed to each headlamp a cowl, very like the sometime popular "Dolly Vardon" hat. The cowl is pivoted on each side of the rim of the lamp, and has attached to it a lever; this lever is controlled by a Bowden wire, so that the cowl can be dipped forwards over the lamp directing the rays on to the road, instead of allowing them to shine out horizontally. It is said that experiments proved that the device brought the lamp rays into such perfect control that other road users were entirely free from dazzle. A rough test we have made with such cowls confirms this view, and also the statement that there is no loss of necessary illumination to the driver such as arises when dimming is resorted to.

The discovery of simple practical devices will warrant some general regulation for the safety of all road users. We commend the use of the white scarf or armlet to walkers and cyclists, and to drivers the necessity of care for those who use the road with as much warrant as themselves.

[1] Made by James Woodcock and Sons, 259, Glossop Road, Sheffield.

ROYAL MEDICAL BENEVOLENT FUND.

AT the last meeting of the Committee thirty-one cases were considered and £547 voted to twenty-eight applicants. The following is a summary of some of the new cases relieved.

M.R.C.S.Eng., 1891, aged 55, unmarried, was a major in the R.A.M.C. A mental breakdown has rendered him unfit for any further work. A brother and four sisters contribute £130 towards his support, but one contribution of £36 per annum has ceased owing to the contributor's ill health. The Fund was asked to make a grant to cover this amount, and £30 was voted in twelve monthly instalments.

Widow, aged 57, of M.R.C.S.Eng. who died in 1922. Applicant has tried to support herself by taking boarders, but owing to ill health and lack of boarders has got into debt. Her debts amount to £23. Income from boarders £117. Voted £18 in twelve monthly instalments.

Widow, aged 31, of M.B.Aber., who died from tuberculosis in August, 1924. She and her daughter, aged 6, are left with £3 a week, which will last for another eighteen months. She pays her parents £2 10s. a week for herself and child for board and lodging. Applicant is training as a hairdresser; the Scottish Corporation found the sum of £30 for the course, and asked the Fund to help towards this amount. £15 was voted.

M.R.C.S.Lond., aged 68, who practised until ill health compelled him to give up. His daughter has supported herself and her father, but is now trying to get him into a home, as he requires constant attention. The boarding-house which the daughter has had is a failure, and she is now seeking a post so as to be self-supporting. She asks for a grant as the applicant has no income. Voted £40 in twelve instalments.

Subscriptions may be sent to the Honorary Treasurer, Sir Charters Symonds, K.B.E., C.B., M.S., at 11, Chandos Street, Cavendish Square, London, W.1.

British Medical Journal.

SATURDAY, JUNE 6TH, 1925.

ROYAL OPENING OF OUR NEW HOUSE.

THE new house of the British Medical Association, in Tavistock Square, London, is rapidly approaching completion. On Monday, July 13th, it will be formally opened, and the ceremony will form the first of a series of functions which will engage the activities of members of the Association until the close of the Annual Meeting in Bath on the 27th of that month.

The Patron of the Association, His Majesty King George, has graciously consented to open the New Building, and will be accompanied by Her Majesty Queen Mary. The occasion will be memorable in the history of the Association, and impressive as a demonstration of the essential solidarity of the medical profession in this country and throughout the British Empire.

A strong Reception Committee, comprising the distinguished Presidents of the Royal Colleges of Physicians and Surgeons and the officers and other prominent members of the British Medical Association, is presided over by the Chairman of Council. Invitations will shortly be issued to all the important professional bodies in the country, and it is anticipated that the representatives of Medicine throughout the land, and officers of bodies cognate with the Association, will be well represented at the opening function. It is hoped that every Division and every Branch in the country will be able to send a representative to participate. The presence of Dominion and Colonial delegates is already assured. Our brethren in the United States have intimated that the President-Elect of the American Medical Association, with probably at least one other eminent colleague, will be present, and it is also anticipated that medical men of distinction from allied countries, who will subsequently take part in the scientific proceedings at the Bath Meeting, will attend the function.

As a preliminary to the actual opening ceremony His Grace the Archbishop of Canterbury has consented to dedicate and open the magnificent memorial gates which the British Medical Association has provided as a tribute to those of its number who fell in the great war. These gates, of which some preliminary account appeared in the BRITISH MEDICAL JOURNAL of May 2nd (p. 853), are now in course of erection at the front of the main courtyard.

The opening ceremony will include the presentation of officers of the Association and prominent visitors, together with the representative delegates from the Dominions, Colonies, and foreign countries. The function itself will take place in the Great Hall of the New House, which the artistry of Sir Edwin Lutyens, R.A., the architect of the building, has so fashioned as to make a fitting frame for such a ceremony. Following upon the ceremony the building will be open for inspection by the invited guests. On the evening of July 13th a reception and conversazione will be given, and it is hoped that the Metropolitan Counties Branch may be able to arrange a similar function for the night of Tuesday, July 14th, which will provide an opportunity for many others, unable to be present on the first day, to view the building.

UTILIZATION OF VITAL STATISTICS.

"ACCORDING to Herodotus, Xerxes wept at the sight of his army, which was too extensive for him to scan, at the thought that a hundred years hence not one of all these would be alive. Who would not weep at the thought in looking over a big catalogue that of all these books not one will be in existence in ten years' time?" This was the reflection of Schopenhauer, and a visitor to the library of the Royal Statistical Society, to that section of it which contains the endless volumes of official vital statistics of so many nations, will appreciate its force. Yet these dust-covered volumes, if we could but master their contents, would teach us many things. Comparison of the rates of morbidity and mortality of the same diseases under different economic, climatic, and sociological conditions, ought to bring a wider comprehension of the essential factors of mortality and a truer understanding of the relative importance of the measures to which the decline or increase of this or that disease has been attributed. But the collation of vital statistics is not an easy task. The reports of national statistical departments are primarily designed for the information of the public and officials of the country of origin. Before the tabular matter can be profitably used the inquirer may need knowledge which it may happen is not given at all, or given in a form a foreign reader cannot understand. Even our own vital statistics present difficulties, such as the varying connotation of the word "county," which make the way of the foreign student hard. The Englishman who approaches, without preparation, the official documents of another country will often need assistance. It is, of course, obvious that a good many difficulties must remain even when all the assistance that can be given has been given. The most sedulous study of a Baedeker, even combined with a three months' course on X. Y. Z.'s system of how to learn Dutch without a master, will not fit a Londoner to lecture in the University of Leyden; yet it will most certainly enable him to get more out of a visit to Holland than if he had depended solely on his native wit.

The Health Organization of the League of Nations has projected a series of statistical handbooks—Baedekers of the vital statistical publications of the nations. The first two volumes have now been issued.[1] These volumes describe the publications of the Netherlands and of Belgium. They explain what is in each of the publications and how the information has been obtained; they call attention to striking peculiarities, whether of method or result, and make brief comparisons with the data of a third country, England and Wales. The volumes are compiled on a uniform plan.

[1] League of Nations—Health Organization—Statistical Handbooks Series. No. 1, *The Official Vital Statistics of the Kingdom of the Netherlands*, pp. 77. No. 2, *The Official Vital Statistics of the Kingdom of Belgium*, pp. 84. Geneva. 1924.

Following a short general introduction, the method of taking the census is described, and then the contents of the most recent census reports are noted. Next follows an account of the system of birth registration, then a specification of the information respecting births and birth rates contained in the various publications of the central department. Registration of stillbirths and the published information regarding them are described. There follows an account of the registration of deaths and detailed contents of the published information. Morbidity statistics (nature of data and method of publication) are then treated. A summary of the information published by municipal offices is included, and, in a general conclusion, salient features are noted.

It may certainly be said that a few hours' study of this work would enable any intelligent person to consult the official publications of the country with a clear knowledge of what sort of information he will find in them, and—an important point—over how many years that information is available. The value of such guides as these to the epidemiologist and student or official concerned with public health problems should be very great. When this series is completed knowledge now possessed by a few—a very few—specialists will be open to all the world.

Already, at the beginning of the series, information is afforded which should interest the public health worker. We may illustrate the point by a few examples taken from the guide to the Dutch statistics. Probably few foreigners are aware of the minute accuracy with which data of infant mortality and stillbirths are tabulated in Holland; here is ample material for a comparative study, and therefore need of the warning: "Attention is called to the fact that, unless specially mentioned, 'stillborns' include a proportion of children born alive but dying before registration (that is, within three days of birth), such births being inscribed with the endorsement 'presented dead' and legally regarded as 'stillborn.'" The remarkable contrast between the ratio of female to male mortality from pulmonary tuberculosis is also worthy of attention. While in England and Wales the rate of mortality among males considerably exceeds that among females, in Holland the reverse is found. In 1921 the English rates per 100,000 living were 100.2 for males and only 77.7 for females; the corresponding rates in Holland were 87.0 and 103.0. This is an essentially recent change in Dutch experience (in 1901 the rates were: for males 140, for females 135), and its explanation might throw some light upon the general problem of etiology. In Belgium male mortality from pulmonary tuberculosis has exceeded female mortality during the last twenty years, but the rates in 1921 were the same for the two sexes, so that the position is intermediate between that of the Netherlands and England and Wales.

Very instructive comparisons of the rates of mortality and morbidity of the zymotic diseases are also possible. It is noted that, while formerly the rate of mortality from diphtheria and croup in the Netherlands used often to be higher than in England and Wales, since 1894 the position has changed, and in 1920 and 1921 the rate in Holland was not much more than 50 per cent. of the English rate. There appear also to be differences of incidence, but the caution is rightly given that comparisons of incidence are hazardous, "because the adoption of a bacteriological instead of a clinical criterion may greatly change the recorded incidence of the disease."

The object of these handbooks is, not to summarize the actual contents of the official reports, but to indicate what data are in fact to be found in them, so that such comparisons as we have mentioned only occupy a small part of the volumes and anything of the nature of criticism is—rightly, we think—excluded. Mere guides, however useful, are not, of course, suitable for continuous reading, but we hope the compilers will not refrain from the insertion of such notes as we have mentioned in future volumes, particularly in those which deal with populous countries. Students will be encouraged to consult the original publications if their attention is directed to peculiarities. In planning this series of handbooks the Section of Hygiene of the League of Nations has shown excellent judgement, and is making a very useful contribution to knowledge; we shall look forward with interest to future numbers in the series, which, when completed, will form a most valuable addition to the working library of the public health official or student of medical and vital statistics.

AFRICAN SLEEPING SICKNESS.

IN the last two issues of the JOURNAL we have given an account of the International Conference on Sleeping Sickness recently held in London. According to the history of the disease given in the *Manual of Tropical Medicine* by Castellani and Chalmers, the disease was first observed by John Atkins in 1721, who published a description of it in a book entitled *The Navy Surgeon*, published in 1734. He called it "the sleeping distemper," and said that it was common among the negroes on the Guinea Coast. Winterbottom described it again in 1803, from observations made on the west coast of Africa, near Sierra Leone. The first case was brought to London in 1891, and was studied by the late Sir Stephen Mackenzie. In 1900 two more cases were under the care of Sir Patrick Manson in London; the morbid anatomy of these cases was studied by Sir Frederick Mott, who did much to clear up the pathology of the disorder. The disease was then generally known as "negro lethargy"—not, perhaps, a very good term, as human infection with trypanosomes does not always produce the sleepiness, and the trivial term "sleepy sickness" applied by the newspapers to epidemic encephalitis has now even found its way into the official proceedings of the House of Commons. The disease is characterized by an inflammatory condition of the lymphatic system, which may lead to meningo-encephalitis, to which the characteristic lethargy is due. It was not, however, until the discovery of the trypanosome and of the fact that it was spread by a fly (*Glossina palpalis*)—an observation made by Castellani and by Sir David Bruce and Dr. Nabarro—that any real progress could be made in the study of the mode of dissemination of the African disease. Reports recently submitted by the experts committee of the League of Nations[1] show that the situation is still serious. In its second report this committee made definite recommendations concerning the various subjects to which attention should specially be directed at the present time. These matters were considered at the recent conference in London, which made a series of recommendations; these were reported last week at page 1014. As was there noted, an expert International Commission is to assemble at Entebbe, Uganda, at the end of this year or the beginning of 1926, and it is to make a report after studying the methods in use in Uganda, which is a suitable area from several points of view; in addition to the possession of a well appointed laboratory in Entebbe, it is the district where sleeping sickness was apparently mastered by

[1] This Committee consisted of Dr. Andrew Balfour, C.B., C.M.G., Dr. E. Van Campenhout (Belgium), Professor Gustave Martin (France), and Dr. A. G. Bagshawe, director of the Tropical Diseases Bureau, London. Its report on tuberculosis and sleeping sickness in Equatorial Africa was submitted to the Health Committee of the League of Nations last April.

the removal on a large scale of the infected population from the endemic areas. Repopulation of the abandoned areas is now proceeding, and special investigations are being carried on among them. It also affords ample opportunity for the study of cattle, and the blood of situtunga antelopes, of varanus lizards, and other wild animals can be examined; while, not very far away—in Kavirondo—cases of human sleeping sickness are available. Again, it is easy to get from Entebbe to Mwanza on the southern shore of Lake Victoria, and some few days' journey from Mwanza lies the area where Mr. Swynnerton has been conducting his remarkable large-scale preventive measures, of which he has given an account in our columns. The demonstration of Mr. Swynnerton's methods and the opportunities afforded by this part of Tanganyika Territory for a further study of the big game problem cannot fail to be of value to the Commission. The chairman of the local International Commission is Dr. H. L. Duke, bacteriologist to the Uganda Protectorate, who eleven years ago contributed to this JOURNAL an article on wild game as a reservoir for human trypanosomes, and has since been engaged in a study of the problem in all its aspects in Uganda. France will be represented by Dr. Lavier, and Belgium by Dr. Van Hoof. Dr. Kleine will also be a member of the Commission; he has been selected for his wide knowledge of some of the problems to be solved, and for his special experience in their investigation. The Commission will be completed by the appointment of a biochemist, an entomologist with local knowledge, and a European laboratory assistant. The appointment of such a commission is a new departure so far as tropical Africa is concerned, and is frankly of an experimental nature. It was therefore considered desirable that its mandate should be definitely limited to a period of one year.

MURDER AND INSANITY.

THE M'Naghten rules, which have governed the defence of insanity in murder trials since they were laid down in 1843, have once more been the subject of criticism—this time by the members of the Medico-Legal Society. A report of the debate appears at page 1038. The law of England assumes a man to be sane, and therefore responsible for any crime he may commit, until proved insane to the satisfaction of a jury. The onus is upon the defence to prove that at the time the accused committed the murder he was labouring under such a defect of reason resulting from mental disease as not to know what he was doing, or, if he did know this, yet he did not know that what he was doing was wrong. Dr. Weatherly, in his introductory paper before the society, said that excluding idiots, imbeciles, and many chronic dements—who might presumably be included in the category of those who would not know what they were doing—the judges who laid down the rules of 1843 would have found very few inmates of modern asylums of whom it could confidently be stated that they had no proper knowledge of right and wrong. This view has long been held by very many members of the medical profession, and it is to be remembered that the Committee presided over by Lord Justice Atkin recommended that if a man commits a crime under an uncontrollable impulse due to mental disease, he ought not to be held responsible for it in law. This recommendation, however, does not find favour with all members of the legal profession. Lawyers who hold a different view say that though the M'Naghten rules may be open to criticism, yet until some satisfactory substitute can be found it is safer to rely upon the fairly definite statement of legal insanity contained in those rules than upon indefinite theorizing about what is an irresistible and uncontrollable impulse. As to Dr. Weatherly's statement that most lunatics can distinguish right from wrong, Lord Brougham's oft-told tale is, perhaps, worth recalling. Patients in York Asylum, so it is said, discussed together the case of the incendiary Martin, when on his trial for attempting to burn York Cathedral, and came to the conclusion: "He will be all right; for he is one of us, so the law will take no notice of him." Dr. John Campbell, relating his experiences as a medical officer to H.M. Prisons, said that lunatic prisoners, after assaulting a prison warder, would sometimes say, "You can't touch me; I am a lunatic." The question arises: Ought insane persons, then, who seem to know right from wrong, to be immune from the penalties of our criminal law just because they are declared to be lunatics? The view of the legal profession is that the answer is to be found in the third M'Naghten rule—that if the accused was conscious that the act was one which he ought not to do, and if that act was at the same time contrary to the law of the land, he is punishable. The recommendation that the sufferer from irresistible impulse should be immune was criticized by some legal members of the Medico-Legal Society, but Lord Justice Atkin pointed out that such an impulse, to afford immunity, must arise from a disease of mind. He cited the most usual case before our criminal courts—of the mother of a young family, deserted by her husband, who several times resisted the impulse to put an end to her children's existence of semi-starvation; that impulse eventually became an obsession, and, there being no hope of future sustenance, she killed her children. Here, surely, it is argued, there is no disease of mind of such a character as would enable her to set up a plea of irresistible impulse arising therefrom. However, as Lord Justice Atkin said, in such cases the jury always takes the merciful view, and the woman is found "Guilty but insane," despite the M'Naghten rules. Dr. Weatherly adumbrated two questions for a jury in substitution of the M'Naghten rules: (*a*) that the prisoner was suffering from a disease of mind; (*b*) that the crime was the outcome of that disease. The objection of the legal profession to these, as we understand it, is that they wholly ignore the axiom laid down in Rule 3, or, alternatively, that (*b*) is satisfied by Rule 4; where a criminal act is committed by a man under some insane delusion as to the surrounding facts which conceals from him the true nature of what he is doing, he will be under the same degree of responsibility as if the facts with respect to which the delusion exists had been as he imagined them to be. The oldest illustration of this rule is what is called the Dresden china case, where the accused man was in the habit of dusting his servants every day under the delusion that they were pieces of Dresden china, and, being angered while engaged in this occupation, he aimed a fatal blow at one of the servants. What we conceive to be the view of the legal profession on this difficult matter is that to alter the present law is inexpedient because the medical profession is not unanimous about what constitutes insanity. Medicine has, of course, made great strides in the study of mental disease since 1843. But (so the legal argument runs) until the medical profession can put forward something to replace the M'Naghten rules—which harmonize with the oldest of criminal law maxims, *Actus non facit reum nisi mens sit rea* (that you cannot have a criminal act without a guilty mind), upon which the question, "Did he know that what he was doing was wrong?" is based—it is doubtful whether a solution will be found which proves acceptable to both the medical and legal professions and also to the general public.

CHEAP AND NASTY SPECTACLES.

A NUMBER of multiple shops are being opened throughout the country, where every article for sale is at a low and fixed price. We do not wish to comment upon the general run of the articles for sale: some of them may be of excep-

tional value and of real use; others are dangerous and dear at any price. A reader has given to us a pair of spectacles he purchased from one of these shops—a huge place of shining wood, metal, and plate glass. Spectacles were on sale at sixpence a pair. The pair he bought purported to correct his presbyopia, the degree of which he knew. The spectacles seem to be of foreign make. The frames are of rather soft iron, coated with some mercury gilding which makes them look attractive. The bridge is a useful W-shape, the joints are well soldered, and the hinges of the bows undoubtedly ingenious. So far as the frames go no objection need be made at the price. But the lenses are otherwise. These are plano-convex of +3 diopters. The lenses appear to be cast and unpolished. The surfaces are pitted all over, so that they look like a coarse imitation of the pores of the human skin where the sweat glands are most numerous. But this is not the worst. One lens is centred correctly, but the other is decentred downwards, so that there is in effect a 2.5 degree prism, base down, set in that lens. Such a defect will produce in the wearer of these glasses all the discomfort and strain of hyperphoria or latent vertical squint, perhaps the most troublesome of all defects of muscle balance. It is to be hoped that vendors of these spectacles, in the interests of the community generally, will cease to sell them, unless they are sold with plane lenses for the amusement of children.

A SALE OF OLD MEDICAL BOOKS.

ANOTHER of the old family libraries of the English aristocracy is catalogued for sale by auction, and proves to be rich numerically in old medical works, though few of them are of sensational value from the collector's point of view. The library in question is that of the ninth Lord Middleton, which is being sold at Christie's on June 15th, 16th, 17th, and 18th; many of the books are autographed by his ancestor, the first peer, previously Sir Thomas Willoughby, who evidently took a strong interest in contemporary medicine and anatomy. Thus there are Bartholin's treatise on the latter subject, with his portrait, 1654; Glisson's "Anatomy of the Liver," 1665; Barbette's "Surgical Anatomy," 1672; Swammerdam on respiration, 1667; Mayow on the same topic, and on rickets, 1669; Thurston, also on respiration, 1670; Bartholin on the genital tract, 1664; Vesling on anatomy, 1661; Blasius on the anatomy of animals, 1681. More important than any of the foregoing is Thomas Gemini's translation into English of Vesalius's great textbook of anatomy (Basle, 1543), one of the first books in English illustrated by copperplate engravings, 1559; earlier still is Mundinus's "Anatomy" of 1513. Among many other books on medicine and surgery are those of Timothy Bright on the sufficiency of English medicines, 1580, and on melancholy, 1613; of Haworth, on the "New Spaw" (in Long Acre!); of Isaac Barrow on vision, 1699, and of Christopher Scheiner on the eye, 1652. There is a copy of Sir Thomas Elyot's "Castel of Helth," 1541, not the first edition, seemingly, bound up with Cary's herbal, "imprinted at London in fletestrete at the sygne of the George nexte to Seynt Dunstones churche by me Wyllyam Myddylton in the yere of our Lorde DCCCCCXLVI, the thyrde day of July," which is extremely rare. There is also a copy of Linacre's edition of Galen, 1541, in a binding of stamped pigskin, which is dated 1544 and gives additional value to the contents. With this may be mentioned Robert Sprackling's "just and plain vindication of Hippocrates and Galen," 1665. About nine medical tracts by Glauber, 1651-58, are bound together in one volume; Highmore and Willis and Sydenham are other seventeenth century worthies whose names occur in the catalogue. William Harvey is represented by two works, and his namesake Gideon by one. Another edition of Galen is that of 1561, bound in contemporary vellum with the arms of Cambridge University on the sides; while there is also a very interesting copy of the works of Hippocrates (the first Aldine edition, published at Venice in 1526). There are several pharmacopoeial volumes; perhaps the most interesting is the first edition of the "London Pharmacopoeia," drawn up in 1618 by the Royal College of Physicians. The "Hortus Sanitatis" of Joannes de Cuba, 1517, is bound up with John of Vigo's "Surgery" of 1514. The latter author is also represented in an English translation (by Bartholomew Traheron) of 1550. Even more ancient is John of Gaddesden's book on medicine, printed in 1492, but compiled about 1314. As early as 1628 it occurred to Castellus—and possibly to others—that blood-letting was being overdone, for in that year he published at Rome a treatise on the abuse of phlebotomy, a copy of which appears in this sale. Two more tracts on phlebotomy, for and against, dated 1671, are bound in with other medical and scientific pamphlets, one of which deals with the cure of adder bites. In 1634 appeared the third edition of Peter Lowe's "Whole Art of Chirurgerie," of which also a copy is offered; two copies of the rare first edition of this work have been seen in London salerooms in the last year or two. Later in the catalogue is seen "Willis on the Brain and Nerves," bound with "Diemerbroeck on the Plague"; the last items of any medical importance are Wecker on remedies, 1588, and Bruele on the theory and practice of medicine, 1585. Altogether this is an assortment of medicinalia which shows the catholic taste of Thomas Willoughby, by whom most of the library appears to have been collected.

CANCER COMMISSION OF HARVARD UNIVERSITY.

WE have recently received the twelfth annual report of the Cancer Commission of Harvard University for the year ending June, 1924. The commission was founded in 1899 for the study of the cause of cancer. In 1912, further funds being available, a special hospital was built for the study and treatment of cancer patients. During the earlier years of the commission's work investigations were carried on in the laboratories of the Harvard medical school—investigations which had to do chiefly with the possible parasitic cause of cancer, a question much discussed at the time. In more recent years inquiries were extended to include a study of the pathology of the spontaneous and inoculable tumours of animals, and under Professor E. E. Tyzzer contributions of great value were made to the tumour problem. With the construction of the special cancer hospital and the advent of radium and x rays as agents for the treatment of cancer, a new department of investigation came into existence—that of bio-physics. Since 1922, when further laboratories were completed, it has been possible for all the work of the commission to be assembled under one roof, with facilities for the effective treatment of patients with x rays, radium, or surgery. Laboratories have been built for the investigation of various problems in chemistry, pathology, and bio-physics which are likely to contribute toward the solution of the cancer problem. The latest report shows that great activity is afoot in nearly all the departments of this well equipped hospital. This document consists of a general review of the policy of the year and a series of special reports by the surgeon, physician, research fellows in physics, bio-physics, and chemistry. Like all similar reports, this only refers in general terms to the work which is at present in hand, but the remarks that are made about some of the researches, particularly those connected with bio-physics, suggest that important developments are near at hand.

CHARCOT BIBLIOGRAPHY.

ON Monday, June 15th, at the social evening of the Royal Society of Medicine, Dr. Farquhar Buzzard, President of the Section of Neurology, is to give an address on Charcot, as a part of the ceremonies in celebration of his birth one hundred years ago, and Mr. W. G. Spencer has prepared a bibliography of Charcot so far as is represented in the publications in the library of the society. The bibliography is a voluminous document arranged chronologically from the year 1851, when, as an interne of the Hôpital de la Charité, Charcot made eleven reports to the Société de Biologie, down to 1893, when he published simultaneously in English and French an essay on the Faith Cure. During the evening the Library will be open, and books and articles by Charcot and his pupils will be on view. Fellows and guests will be received by the President, Sir StClair Thomson, at 8.30 o'clock.

THE "BRITISH MEDICAL JOURNAL": NEW ADDRESS.

DURING the Whitsun holidays the Editorial and Printing Departments of the BRITISH MEDICAL JOURNAL were removed from 429, Strand, to the new headquarters building of the British Medical Association in Bloomsbury. The postal address for all communications intended for the Editor is now "BRITISH MEDICAL JOURNAL, British Medical Association House, Tavistock Square, W.C.1," the telephone number of the Editorial Department is Museum 9864, and the telegraphic address "Aitiology, Westcent, London." Until further notice is given in these columns, all communications with reference to advertisements, as well as orders for copies of the JOURNAL, should continue to be addressed to the Financial Secretary and Business Manager, 429, Strand, W.C.2. It is expected that the Medical Department and the Library of the Association will be removed about June 17th, and the Finance Department about June 19th.

THE Registrar of the General Medical Council informs us that an official communication has been received from the Privy Council notifying that the agreement with Italy regarding medical reciprocity was signed on May 21st.

THE Croonian Lectures before the Royal College of Physicians of London will be delivered on June 9th, 11th, 16th, and 18th, by Dr. S. A. Kinnier Wilson. The subject is "Disorders of motility and of muscle tone, with special reference to the corpus striatum." The lectures will be delivered at the College, Pall Mall East, at 5 o'clock.

THE annual general meeting of the Research Defence Society will be held at the house of the Medical Society of London, 11, Chandos Street, Cavendish Square, W.1, on Tuesday, June 9th, at 3.30. The chair will be taken by the President, Lord Lamington, G.C.M.G., G.C.I.E. A short lantern lecture will be given by Dr. R. A. Lyster, M.O.H. for Hampshire, and lecturer on preventive and State medicine at St. Bartholomew's Hospital, on "Our defences against small-pox." Tea and coffee will be served after the meeting.

THE annual dinner of the Harveian Society of London will be held in the Connaught Rooms, Great Queen Street, W.C.2, on Thursday, June 11th, at 8 p.m.

THE annual conversazione of the West London Medico-Chirurgical Society will be held at the Kensington Town Hall on Friday, June 12th. The president of the society will hold a reception at 8.30 p.m., and at 9 o'clock the Cavendish Lecture will be delivered by Sir Humphry Rolleston, Bt., Regius Professor of Physic in the University of Cambridge.

INTER-STATE POST-GRADUATE ASSEMBLY OF AMERICA.

INAUGURAL PROCEEDINGS.

THE Inter-State Post-Graduate Assembly of America, which met in London from June 2nd to 4th, under the leadership of Dr. Charles H. Mayo, was attended by 550 medical men from the United States and Canada. The visitors represented every State in the Union and every Province in the Dominion, and Dr. Mayo announced that 60 per cent. of them were general practitioners. A very busy medical programme was completed, and there was also a full social programme, chiefly for the benefit of the ladies, who numbered 200, accompanying the party.

H.R.H. the DUKE OF YORK presided at the opening ceremony in Wigmore Hall. The hall was filled with the visitors for almost an hour before the proceedings were timed to begin, and the acclamations with which familiar figures were greeted had a gusto which was a little unusual for medical gatherings on this side. The Duke of York briefly welcomed the "fellow workers in the great army of skilled physicians and surgeons," and expressed his hope that when the visitors left these shores it would be not only with some additions to their professional knowledge, but with the happiest recollections of their stay. Dr. Mayo was to be congratulated upon the organization which in nine years had done so valuable a work and achieved so important a position. He also congratulated Mr. Philip Franklin, the honorary organizer of the meeting, on the result of his efforts.

The Right Hon. NEVILLE CHAMBERLAIN offered a welcome on behalf of the Government, and especially the Ministry of Health. To cross the Atlantic was no longer a serious or perilous adventure, but he supposed that many of those present must have travelled hundreds of miles on land before embarking, and all of them must have had to make special arrangements for the carrying on of their practices. It was a compliment of no mean order that they had found it worth while to come and see what Great Britain was doing. This small island felt the honour of opening its arms to embrace the profession of a continent, and it was an impressive thought that the visitors would carry back the results of their observations to so wide a territory. Not that they would all tell the same story, or they would be unlike their British confreres, who showed a healthy independence of mind. The benefit of the meeting would not be confined to the other side of the Atlantic; physicians and surgeons in this country would gain much from the contact.

Sir HUMPHRY ROLLESTON, Bt., P.R.C.P., said that although language and ideals were identical on both sides of the Atlantic, there was necessarily, owing to the respective environments, a certain amount of difference in views and methods. Post-graduate education was a very urgent problem in London, and the profession here had much to learn from America in this respect. Less than ten years ago there was a Tri-State Assembly out of which the present organization had expanded until it embraced every State of the Union and every Province of Canada. On this side they had reflected with what joy Sir William Osler would have welcomed that occasion, and this had inspired them to do everything in their power to ensure an instructive and useful visit.

Sir JOHN BLAND-SUTTON, Bt., P.R.C.S., after referring in a teasing way to some other forms of migration and pilgrimage, said that this was the greatest invasion of doctors from America into our island within living memory. At the back of this irruption was an intellectual hunger combined with a certain amount of curiosity. It was one thing to gather the opinions of physicians and surgeons from their effusions in medical journals or other legitimate forms of advertisement, and another thing to meet them face to face in their own wards and operating theatres, or, better still, over a meal or a pipe, where lasting friendships could be formed.

The American Ambassador (His Excellency the Hon. A. B. HOUGHTON) expressed the thanks of the visitors to His Royal Highness. This occasion was one more evidence of the reality of those friendly ties which bound the countries and peoples together. The comradeship of the British and American medical professions, so manifest during the agony of the war, was to be furthered and perpetuated in the time of peace. He addressed to his compatriots a word of gentle admonition. It was going to demand from them all the talent and knowledge they had gained in their professional experience to weather the burst of British hospitality which awaited them; he spoke as an expert! Nowhere else would American doctors find a hospitality so generous and gracious, though potentially so dangerous, as in the ancient home of their forefathers.

Dr. CHARLES H. MAYO said that this Royal welcome would add to the warmth of feeling for the Mother Country which existed in the States, even as the gathering itself would do something to promote the supremacy in scientific work of the English-speaking peoples. He added that the Assembly had one honorary member—Mr. Coolidge, President of the United States—and he now had authority to invest another distinguished person with the honorary membership—namely, the Duke of York.

Sir W. ARBUTHNOT LANE, Bt., read a telegram from Dr. George Crile, expressing his regret that he was prevented from attending, and adding that the company who had come over were some of the finest and most earnest men in the profession in North America. Both they and the members of the profession who had remained behind keenly appreciated the arrangements which had been made for them.

FIRST SESSION.

Gall-bladder Disease.

At the first morning session four lectures were delivered, the first by Sir HUMPHRY ROLLESTON on the etiology and treatment of gall-bladder disease. The lecturer discussed the two etiological factors—the infective and the metabolic or biochemical factors—in the formation of gall stones, and said that sometimes one factor operated alone, more often both factors operated together, and both must be taken into account in prophylactic measures and in treatment. There had been some scepticism as to the real value of hexamine in gall-bladder infections, but he considered that the value was beyond doubt. He dealt with prophylactic measures, in particular the restriction of foods rich in cholesterol which would favour the formation of biliary calculi; these foods were yolk of eggs, brains, fats, butter, stewed and fried foods, goose, duck, sweetbread, liver, kidneys, beans, and peas. Stagnation of bile in the gall bladder should be counteracted by frequent small meals, which led to corresponding evacuations of the gall bladder, and by exercise, especially such as entailed free excursions of the diaphragm and the liver. It must be admitted that medical treatment was not so radical, and therefore not so satisfactory, as surgical removal of the calculi, but there were many cases where surgical treatment was declined by the patient or was inadvisable. Attempts to dissolve gall stones could not be regarded as likely to succeed. Olive oil certainly dissolved them in test tubes, but that afforded little evidence of the action which took place in the gall bladder.

"The First and Last Kink."

Sir W. ARBUTHNOT LANE addressed the gathering on "The first and last kink." He had formulated a law that all those changes in the body which came about in consequence of the endeavour on the part of the organism to establish a mechanical relationship with its surroundings served at first a useful purpose, but later tended to shorten the life of the individual. In no instance was this law so clearly demonstrated as in the first and last kink, the effect of which upon the gastro-intestinal tract was in the first instance simply mechanical, but later resulted in contamination by septic organisms. His observations, which had extended now over many years, had impressed him with the connexion between cancer and gastro-intestinal stasis. There was a mechanical and a toxic factor in the causation of cancer, and he had observed cancer following so commonly upon the mechanical and toxic results of intestinal stasis that he was convinced that the sequence was no mere accident. The principles governing the treatment he now adopted in such conditions differed in no detail from those which he formulated twenty-five years ago. In milder cases the lubrication of the canal and consequent softening of the intestinal contents by the free use of paraffin was sufficient to meet the disability resulting from a moderate degree of obstruction. Suitable diet, kaolin, and belladonna were most useful adjuvants in that they controlled the spasm of the inflamed bowel. In other cases the freeing of the anchored bowel by a simple operation restored the structure and mobility and permitted the free passage of material through the liberated loop. He would not discuss the treatment of ulceration of the gastro-intestinal tract and other conditions which resulted from the presence of the first and last kink, but he would draw attention to the importance of recognizing the causal relationship of all these troubles of the proximal bowel, and of the need for instructing the public in proper dieting and in the habit of evacuating the large bowel three times a day, in order that this acquired state, which was almost to be regarded as normal in civilization, might be obviated.

"New Diseases for Old."

Sir THOMAS HORDER spoke on some changes in the incidence and course of common diseases. Diseases, he said, had their natural history, like men and animals. Old diseases disappeared or tended to lose their virulence, new ones took their place. Cholera and typhus had gone, smallpox was going, but influenza and encephalitis had appeared. Certain diseases during the last twenty-five years had become less common—diphtheria, erysipelas, typhoid fever, anthrax, glanders, hydrophobia—thanks largely to the activity of the Ministry of Health. The comparative rarity of lead poisoning and other industrial diseases might reasonably be attributed to the sound operation of the Factory Acts. The relative infrequency of certain other diseases might be attributed to the betterment of the general conditions of life; some forms of tuberculosis came in this category, possibly rickets also. Acute articular gout seemed to be less frequent than formerly; it was not clear whether this was due to the fact that people drank less alcohol or favoured different alcoholic beverages from those favoured by their fathers. On the other hand, a series of disease processes had arrived, lacking the precision of the conditions just named, but having as a common feature a large element of functional disturbance—neurasthenia in all its forms, arterial hypertension, with arterio-sclerosis in close attendance, functional heart affections, with myocardial defects as accompaniments or sequels, hyperthyroidism, and perhaps diabetes. There was also a large increase in affections due to *B. coli* or lactose-fermenting members of the same group, and again in cases of bacterial endocarditis associated with feebly pathogenic strains of streptococci. Then there was the large group of cases of focal sepsis, chronic infections of the periodontal membrane, tonsils, and respiratory and digestive tracts. Most of these were due to some saprophytic strains of streptococci. There was good reason to regard these saprophytic infections as resulting from lowered tissue resistance. Was it possible that they were becoming more and more the prey of their own saprophytes, and if so why? The conditions of modern life had tended to eliminate disease or render it less harmful, with the one important exception that the nervous and emotional strain of living had increased in the last two decades. Lowered resistance to microbic infection was usually regarded as due to an ill defined change in the patient's general state, for which the expression "run down" was commonly used. Might not the central nervous system have some more definite and direct bearing upon infection or immunity than had hitherto been thought probable? The influence of the nervous system upon the response to bacterial infection had been too little regarded. Therapeusis must concentrate upon the means of raising the general resistance, and especially the nerve tone. Patients must be induced to live the simpler life. In the sphere of the intellect, and especially of the emotions, moderation must be preached. The pace of modern life,

the nervous strain involved, the expenditure of the energy of the spirit, had become a large factor in the incidence of disease, and of disease of a different type from that with which the physicians of a past generation were acquainted.

Addison's Anaemia and Subacute Combined Degeneration.

Dr. ARTHUR F. HURST gave the concluding lecture, on the pathogenesis and treatment of Addison's anaemia and subacute combined degeneration of the spinal cord. Something like 85 per cent. of the cases of pernicious anaemia had sooner or later some nervous symptoms, shown quite definitely to be due to degeneration of the spinal cord. These two diseases were really due to the same cause; he believed it to be an infection which began in the mouth. Both conditions were marked by an absence of hydrochloric acid in the gastric juice, and there was a good deal of evidence that this achlorhydria was not a symptom of the disease but preceded the disease. This was a familial condition, and explained the familial occurrence of Addison's anaemia. To examine the gastric contents and the blood was advisable in cases in which this condition was at all suspected, and by vigorous early treatment it was possible to prevent the anaemia and the nervous disease from developing.

Dr. Hurst next described the treatment he followed, directed in the first place to the eradication of any oral infection, and afterwards to the stomach, and the preventive measures to be taken to ward off the recurrences so common in the past. It was impossible to compare the different forms of treatment; each had its use. What he urged was a combined treatment, directed in every possible way to overcoming the intestinal infection, which seemed to be the cause of both Addison's anaemia and subacute combined degeneration of the spinal cord, at the same time overcoming the results of the infection by transfusion and by arsenic. He hoped that with further development along these lines the word "pernicious" might lose its ordinary connotation. Towards the close of his lecture Dr. Hurst described a remarkable case in his experience in which a man who had been cured of Addison's anaemia became on two occasions a very successful donor of blood to patients in a like condition.

In the afternoon twenty hospitals offered post-graduate facilities to the visitors. Later proceedings will be reported in our next issue.

BIRTHDAY HONOURS.

THE list of honours conferred in connexion with the King's Birthday on June 3rd contains the names of the following members of the medical profession, to whom we offer warm congratulations.

Baronet.

Sir JOHN BLAND-SUTTON, LL.D., F.R.C.S.
President of the Royal College of Surgeons of England; Consulting Surgeon to the Middlesex Hospital.

K.C.B. (Military).

Major-General SAMUEL GUISE MOORES, C.B., C.M.G., late R.A.M.C., retired pay.

K.B.E. (Civil).

JAMES CRAWFORD MAXWELL, M.D., C.M.G.
Colonial Secretary, Gold Coast Colony.

Knights.

JAMES BERRY, B.S., F.R.C.S.
Consulting Surgeon, Royal Free Hospital; Member of the Council of the Royal College of Surgeons of England.

HARRY EDWARD DIXEY, M.D., J.P., D.L.
Chairman and Honorary Secretary of the Bewdley and West Worcestershire Unionist Association for twenty-five years. For political and public services.

JOHN ROBERTSON, C.M.G., O.B.E., M.D.
Medical Officer of Health, Birmingham; Professor of Public Health in Birmingham University.

C.B. (Military).

Surgeon Rear-Admiral ALEXANDER MACLEAN, D.S.O., R.N.

C.M.G.

ARTHUR ANDREW MORRISON, M.D.
British Delegate on the International Maritime Sanitary and Quarantine Board of Egypt.

C.S.I.

Major-General THOMAS HENRY SYMONS, O.B.E., I.M.S.
Honorary Surgeon to H.M. the King; Surgeon General with the Government of Madras.

C.I.E.

Lieut.-Colonel ROGER PARKER WILSON, I.M.S.
Officiating Surgeon-General to the Government of Bengal.

Lieut.-Colonel CLAYTON ALEXANDER FRANCIS HINGSTON, O.B.E., I.M.S.
Superintendent, Government Hospital for Women and Children, Madras.

C.B.E. (Civil).

EDGARD LUCIEN DE CHAZAL, M.D.
Superintendent, Victoria Hospital, Mauritius.

GEORGE DOUGLAS GRAY, M.D.
Medical Officer, H.B.M. Legation, Peking.

Dr. VICTOR RICHARD RATTEN.
Surgeon Superintendent, Hobart Public Hospital, State of Tasmania.

Major ALEXANDER JAMES HUTCHISON RUSSELL, I.M.S.
Director of Public Health, Madras.

GEORGE PADDOCK BATE, M.D., F.R.C.S.E., J.P.
For services to the Home Office under the Factory Acts.

DAVID MACKAY CASSIDY, M.D., D.Sc., F.R.C.S.
Medical Superintendent, Lancaster Mental Hospital.

O.B.E. (Military).

Surgeon Commander JOHN SCARBROUGH DUDDING, R.N.
Major JOHN SCOTT, D.S.O., I.M.S.

M.B.E. (Military).

Subadar Major BARKAT RAM, BAHADUR, Indian Medical Department.

M.B.E. (Civil).

Lieutenant JAMES CHARLEMAGNE CHALKE, I.M.D.
Assistant Surgeon to His Excellency the Governor of Bengal.

Kaisar-i-Hind Medal.

Miss ESTHER G. BARE, M.D.
Clara Swain Methodist Episcopal Mission Hospital, Bareilly, United Provinces.

Miss EDITH L. YOUNG, M.D.
In charge Palwal Mission Dispensary, Gurgaon District, Punjab.

MEDICO-PSYCHOLOGICAL ASSOCIATION.

THE MAUDSLEY LECTURE.

THE quarterly meeting of the Medico-Psychological Association of Great Britain and Ireland was held at the rooms of the Medical Society of London on May 21st, with the President, Dr. M. J. NOLAN, in the chair. Professor G. M. ROBERTSON referred to the recent death of Dr. Gardiner Hill, and spoke in very appreciative terms of his work as medical superintendent of Middlesex County Asylum for twenty-eight years; Dr. Hill had formerly been at Lincoln and Cane Hill.

The sixth Maudsley Lecture was delivered by Dr. J. Shaw Bolton, F.R.C.P., professor of mental diseases in the University of Leeds, and medical director, West Riding Mental Hospital, Wakefield.

Dr. SHAW BOLTON opened with a reference to the number of theories of mind which had been advanced since the war, often in ignorance of, or with scant reference to, the accumulated knowledge of the past. Incidentally, he spoke of the "Rasputin-like philosophy of Freud." The lecturer set out to give an account of the present knowledge on mind and brain as established by fact, as opposed to preconception and theory. Purposeful action was, he said, merely action for a purpose, and not action based on intent by the agent; he objected to the attempt to "anthropize" the actions of the lower animals. He entered into a long dissertation on the origin and behaviour of insects, birds, and mammals, showing that the two latter were comparatively late comers, mammals having only begun to rise in size and degree of evolution about two million years ago. Civilized man appeared to date from 6,000 years ago. Dr. Bolton proceeded to demonstrate, as the

result of a special microscopic examination of the cerebra of certain selected birds, that their nervous apparatus was on a par with the purely instinctive and mechanical characteristics he described, and did not even foreshadow the remarkable evolution of the organ of mind which occurred in mammalia. Passing next to mammals, he said it was impossible to consider mind and brain separately, since in mammals function and structure went hand in hand. The human brain was grossly immature at birth, and rapidly grew to nearly adult size during the first two and a half years of life, after which it slowly evolved in stability and complexity until the adult period was arrived at. Even when employed to the maximum degree in the higher individuals of the race, he considered that the human brain was only working at a tithe of its potential capacity. The summation of an elaborate argument was the statement by the lecturer that the whole course of evolution showed that function resulted in an extraordinary development of structural provision for possible future function.

Experience, the lecturer said, was recorded by a number of cerebral mechanisms. The actual results of sensory stimulation were recorded in a largely time-related manner in the various projection areas and zones, with varying degrees of definiteness. It was also recorded through words and verbal complexes, which, when aroused, stimulated the sensori-projection areas, chiefly the visual. Also, and very importantly, the language mechanism was employed in the recording of what was known as "learning by heart." Dealing next with recollection, he said one of the agents of memory was the activity of the cerebrum generally, by which a series of sensori-memorial images were recalled owing to certain of these resembling one another, or having formerly been acquired by association in time or place, or both.

Personality Dr. Bolton defined as the intellectual element of mind or cerebral function, which existed in inverse proportion to the instinctive element common to mammals and to animals below them. The normal personality of a human individual at any time was the conscious activity of his mind and brain with the help of present experience, and of all such past experience as could be recalled voluntarily or aroused by association. There were, he said, grades of cerebral activity. In conscious voluntary control of cerebral association an orderly sequence of activity towards a definite end was evident. On the other hand, in the free association of day-dreaming, while a wayward train of images was experienced, the conscious voluntary control or element of criticism was standing by to reject incongruities. Free association could only exist when the experience was truly passive, and then it was not possible accurately to record it. Records of experience under hypnosis were, he considered, subject to grave suspicion, and were tainted at the source. He discussed the subjects of free association and day-dreaming at some length.

Although cerebral evolution was still so recent and so imperfect, it was abundantly clear that purposive activity had now replaced instinctive or purposeful behaviour, and the instincts, instead of being paramount, now served as modifiers of cerebral activity, inducing the best—or the worst—and preventing stereotypism and habit. The whole purpose of education and training was to evolve reasoned purposeful action in place of instinctive reaction to environment. The best example of man's racial immaturity was mental disease. On one side of the scale there were all grades of subevolution of the cerebrum, with mental counterparts, ranging from the gross idiot, through imbeciles and mental deficients, to the unstable and occasionally insane. On the other side were various grades of deficiently durable and dissoluted cerebra, with their mental counterparts in the several types and degrees of dementia. This statement might provide a gloomy outlook, but truth always pointed the way ahead. Even though they had to care for their mental failures because they could not cure them, much could be done to lessen their severity by the employment of suitable environmental measures, and under a broader conception general conditions of life might be established more suitable to the race.

Dr. Shaw Bolton said that at the present time they were threatened with an exacerbation of world hysteria by the discovery of what he regarded as the myth of the unconscious mind, which was based on Freud's theory of dream interpretation. No two dream analysts were likely to hit upon the same interpretation, and he had not yet encountered an attempt to define the "unconscious mind."

In conclusion, the lecturer considered that the future, in the light of sincere work, was bright with hope, for, in the words of John Milton:

"Where there is much desire to learn, there of necessity will be much arguing, much writing, many opinions; for opinion in good men is but knowledge in the making."

On the proposition of the PRESIDENT, seconded by Dr. PERCY SMITH, a cordial vote of thanks was passed to Dr. Shaw Bolton for his lecture

BRITISH DENTAL ASSOCIATION.

ANNUAL MEETING.

THE British Dental Association held its forty-fifth annual meeting in London from May 29th to June 2nd, under the presidency of Mr. J. H. BADCOCK. The principal meetings were held in the Westminster Central Hall, and the members showed much devotion to duty by giving up the whole of Saturday, May 30th, and Whit Monday to professional discussions.

Address from the Chair.

Mr. Badcock, in his address from the chair, referred to the Royal Commission now sitting to inquire into the scheme of National Health Insurance. Nothing, he said, had been more striking in the evidence so far submitted as the unanimity with which witnesses had demanded that dentistry should rank equally with medicine as a statutory benefit. It had been suggested in the evidence that such benefit should be limited to extractions, but it was difficult to take such a proposal seriously. Putting aside the question of dentures for the moment, he thought that scaling, gum treatment (where the infection was superficial only), and simple fillings which did not involve the pulp represented the least and most which could be done with advantage. To sacrifice teeth not seriously decayed, which could be made healthy and useful for many years, would obviously be wrong, and to attempt difficult and tedious conservative operations would equally be to court failure, because, unless carried out with a very high degree of skill, and with an expenditure of time which could not be adequately remunerated under any such scheme, the result would, in the vast majority of cases, do more harm than good. The provision of dentures represented a more difficult problem. In many cases—though by no means so many as might be thought—dentures were a real necessity, but to provide the whole cost of dentures as a statutory benefit in every case would almost certainly prove a greater burden than the available funds could support. It was desirable that those who could pay, in part or whole, for necessary dentures should do so, and to meet the case of indigent persons possibly a small portion of the insurance contribution might be set apart for an emergency fund. Mr. Badcock went on to plead for the combating of oral sepsis and the restoration of the nation to dental health by widespread instruction of children and adults, the issue of leaflets, and other methods of publicity, and also by further scientific research into the causes of dental decay.

Annual Dinner.

The annual dinner of the association, which was attended by more than 300 members, was held at the Hotel Cecil on Saturday evening, Mr. Badcock presiding. In responding to the toast of "The Imperial Forces," Surgeon Vice-Admiral J. Chambers, Medical Director-General R.N., remarked that the Navy had now only forty-eight dental surgeons, but he hoped to see both the number increased and the conditions of service bettered in the near future. Air Commodore D. Munro, Director of Medical Services, Royal Air Force, who also responded, said that at present the dental service of the Army was shared by the Air Force. He remarked that the effect of the school dental service was beginning to tell in the higher dental standard of the recruits now coming forward. The toast of "The British Dental Association" was proposed by Mr. L. G. Brock, principal assistant secretary of the Ministry of Health, who said he had been struck by the increasing realization on the part of all those associated with National Health Insurance of the importance of securing adequate dental treatment for the insured population. The evidence before the Royal Commission, not only by dentists but by doctors and by approved societies, had shown the necessity of providing dental treatment as complementary to medical and surgical treatment. Sooner or later statutory dental benefit would come about. The toast was responded to by Mr. Norman Bennett, who commented upon the more critical frame of mind which had possessed the rank and file of the association in recent years. Mr. A. T. Pitts proposed the health of the guests, and there were replies by Professor William Wright, dean of the London Hospital Medical School, and Dr. A. L. Hipwell.

Papers and Discussions.

The papers read at the meeting included "The histology of enamel caries," by Mr. H. C. Malleson; "A sixteenth century account of the teeth and jaws," by Professor William Wright; "The temporo-mandibular joint and its influence on the growth of the mandible," by Mr. S. Wilson Charles; "The use of ultra-violet rays in dentistry," by Mr. A. E. Rowlett and Mr. Ivan S. Spain; and "The problem of orthodontic treatment for children in the elementary schools," by Mr. B. B. Samuel.

There were also a number of table demonstrations at the Central Hall, and clinical demonstrations at the Royal Dental Hospital. The latter included two demonstrations of "block anaesthesia"—one by Mr. F. St. J. Steadman and the other by Mr. F. N. Doubleday.

ROYAL COMMISSION ON LUNACY AND MENTAL DISORDER.

THE meeting of the Royal Commission on May 25th was occupied with the evidence of Lord Sandhurst, a Lord Chancellor's Visitor, and Mr. G. M. Hildyard, K.C., Master in Lunacy.

Lord SANDHURST, who said that he was appointed to the post in 1910, described the class of cases in which a visit was directed by the Master in Lunacy. The visits were made to such cases as gave the Lord Chancellor concern on account of their difficulty. Most of the cases were those of persons with some means, and usually were paid to private houses. The number of special visits he paid by request from April, 1924, to April, 1925, was 234. Many of the persons concerned were suffering from some form of senile decay, though the subsection of the Act under which he was empowered was often extended to include mental defectives. In institutions he found the food as good as one could reasonably expect in the circumstances, though there was necessarily a good deal of routine about the menu; complaints from the patients as to food supplied were fairly frequent. Complaints with regard to noisy and offensive fellow patients were sometimes justified, usually owing to the fact that there was not sufficient accommodation to allow of the cases being classified. As to ill treatment of patients, he did not think an assault had ever been reported to him which had been backed by credible evidence. He considered that licensed houses fulfilled a most useful function, and it was a misfortune that no new licences could be granted. The smaller institution afforded a degree of quiet and privacy of a home-like character, which would not be expected in the larger places.

Mr. G. M. HILDYARD said that when a person was certified as a lunatic he could no longer protect his property, which was thus, to some extent, at the mercy of his relatives. He could not say that he had had to deal with a case of wrongful certification in which relatives had got a weak-minded, but not insane, person certified, in order to secure control of his property, but the possibility needed to be guarded against. He did not think administration by the court should be enforced until some time had elapsed, as the patient might recover from his mental disability. He also pointed out the hardship of ceasing to pay the old age pension in the case of patients resident in an asylum.

Scotland.

SCOTTISH SOUTH-EASTERN SANATORIUM.

A NEW sanatorium was opened on May 26th, by the Secretary for Scotland, Sir John Gilmour, at East Fortune, Haddingtonshire. This sanatorium is a combined enterprise by the seven south-eastern counties of Scotland in the attack upon tuberculosis, and the new sanatorium has been constructed by the conversion of an aerodrome used during the war. The scheme originated before the war, and part of the new sanatorium has been in use since December, 1922. The full capacity of the buildings is 199 beds, which are now all available for use. The beds are allotted to the seven counties in proportion to their participation in the scheme, as follows: Berwickshire 16, East Lothian 32, Midlothian 57, Peeblesshire 10, Roxburghshire 15, Selkirkshire 13, West Lothian 56. The sanatorium lies in an open stretch of country between Berwick Law and Traprain Law, and has cost approximately £160,000, to which the Government made a capital grant of £35,820, at the rate of £180 a bed. In the sanatorium the officers' mess has been converted into a block accommodating fifty children. The blocks for male and female patients are separated, and there are *x*-ray rooms with special electric power station and sewage works. The ground extends to some 515 acres.

RETIREMENT OF GLASGOW MEDICAL OFFICER OF HEALTH.

The resignation of Dr. A. K. Chalmers, M.O.H. for Glasgow, was intimated on May 27th at a meeting of the Corporation Health Committee. His retirement takes place under the superannuation scheme at the close of the present month, after a connexion with the administration of public health affairs in Glasgow during the past thirty-three years. The committee decided to recommend the corporation to appoint Dr. A. S. Macgregor, senior divisional medical officer, as interim M.O.H. for the city.

PUBLIC HEALTH LECTURESHIP IN EDINBURGH.

A committee of Edinburgh Town Council has had under consideration a proposal made on behalf of Edinburgh University in regard to combining the lectureship in public health with the post of medical officer for the city. At present candidates for a diploma in public health receive practical instruction in the organization and working of departments connected with the public health services of the city, and the university desires to extend these facilities to the teaching of undergraduates. The most obvious method of securing this is that the instruction should be given by the M.O.H. for the city, and the arrangement suggested is that the M.O.H. for the city should become a regular member of the University teaching staff for a course of some twenty meetings. The proposal has divided opinion in the committee of the town council which has considered it. The unfavourable view in regard to this matter is partly based upon a belief that there would be difficulty in finding time for the medical officer to undertake new duties, in view of the large demands already made upon him under his whole-time appointment. There are many who consider that if the university is to have any voice in the appointment of the medical officer of health for the city this would be unfortunate, for the association of the university with the Royal Infirmary in making appointments to the staff of the latter has not in the past proved in every case satisfactory.

DR. EDWARD CARMICHAEL.

On the occasion of his retirement from practice, Dr. Edward Carmichael, Edinburgh, was entertained at a complimentary dinner in the Caledonian Station Hotel, Edinburgh, on May 27th, by a gathering of about sixty persons, over whom Lord St. Vigeans presided. The chairman, in proposing the toast of "The Guest," referred to Dr. Carmichael's long ministration in the medical profession, in which his unfailing sympathy, cheerfulness, gentleness, and knowledge of the practice and principles of his profession had been outstanding. They all hoped that not the least fruitful of the years of his long and laborious life still lay before him. Dr. Carmichael, in returning thanks for the honour which had been done him, said that he felt it a privilege to go out and in amongst his friends for forty years. He had always felt a dread of making false or wrong judgements, for, while in other professions and in business a wrong judgement might lead to trouble which was usually retrievable, in the medical profession an error of judgement might lead to troubles that were irremediable. He thought that such success as he had enjoyed was due to this anxiety, which had been constantly present with him. The toast of "The Medical Profession" was proposed by Mr. John Prosser, W.S., and acknowledged by Professor G. Lovell Gulland, C.M.G., President of the Royal College of Physicians, and by Sir Harold Stiles, K.B.E., President of the Royal College of Surgeons.

GLASGOW DENTAL HOSPITAL.

The annual meeting of the Incorporated Glasgow Dental Hospital was held on May 27th in the Merchants' House, Glasgow. The annual report showed that during the year the number of attendances at the hospital was 40,337, with a total of 46,138 operations. Artificial teeth had been supplied to 121 patients, the teeth having been made in the mechanical laboratory of the hospital. At the close of the year there were 136 students on the roll. The chairman, Mr. Matthew Robbin, in moving the adoption of the report and financial statement, said that the work of the hospital was not sufficiently recognized by the public. The present hospital was made up from dwelling-houses and was quite inadequate for its work, but before arranging for a site for a new hospital it would be necessary to have the prospect of money to build it.

England and Wales.

ASSOCIATION OF PUBLIC VACCINATORS.

THE annual meeting of the Association of Public Vaccinators of England and Wales was held at the Grand Hotel, Manchester, on April 24th. Dr. Wells (London) presided. There was a good attendance. The Council's report and financial statement were adopted. On the motion of Dr. A. E. Cope (London), seconded by Dr. Bradshaw (Liverpool), Dr. James Bennett was unanimously elected president for the ensuing year. A hearty vote of thanks was accorded Dr. Wells for his services during the past year. Dr. Bennett then took the chair, and, after expressing his appreciation of the honour conferred upon him, gave very interesting details of small-pox in Warrington, his native town, near which, at Padgate, he is medical officer of health. Striking statistics were available, the records having been well kept. In 1773, during an epidemic of small-pox there, all the deaths were in persons under 9 years of age. In the epidemic of 1892 none of the deaths were in persons under 9 years of age. Something had happened to account for this, and undoubtedly it was vaccination. The officers of the association were re-elected and three vacancies on the council filled by the election of Drs. S. C. Jones, Howe, and Johnstone from the Manchester area. Dr. A. E. Cope (honorary secretary), Dr. Drury, and Mr. J. A. Briggs (organizing secretary) were thanked for their services.

Dual Nature of Small-pox.

At the conclusion of the formal business Dr. R. P. Garrow (medical officer of health, Chesterfield) gave an address on the dual nature of small-pox and its bearing on the vaccination question. During the eighteen months to the end of March last there had been 604 cases of known small-pox in Chesterfield. This was part of a general endemic prevalence of the disease in the Midlands of England, extending over the past four or five years. The disease had been characterized by remarkable benignity, and so far as he was aware there had been no deaths. This had led to the belief, rightly or wrongly, that under the name "small-pox" there existed two definite diseases: (1) severe and highly fatal; (2) a mild, relatively harmless disease with no mortality. Those who take this view believe that the virus of para-small-pox has in some way unknown been deprived of its toxicity, resulting in an acute specific infectious disease easily distinguishable from the parent disease small-pox and which breeds true to type. That was known as the contention of the "dualists" in this controversy. On the other hand there were those who have been described as "univists" who recognize only one form of small-pox, believing that alastrim, amaas, para-small-pox, or variola minor is clinically indistinguishable from classical small-pox, and that it has indeed on various occasions reverted to the severe type. At considerable length Dr. Garrow gave his reasons for holding the "dualist" view. He summarized the clinical differences between small-pox and para-small-pox as follows:

1. Severity.—Measured by constitutional disturbance the severity in small-pox was incomparably greater; prostration never seen in para-small-pox.
2. Onset.—Lumbo-sacral pains, vomiting, and rigor replaced by more gradual onset in para-small-pox.
3. Prodromal rashes—not observed in Chesterfield cases.
4. Haemorrhages entirely absent.
5. Smell of small-pox not observed.
6. Duration of prodromal illness longer in para-small-pox.
7. Pause.—Three or four days' interval in one-third of the cases of para-small-pox between initial illness and first appearance of eruption.
8. Focal lesion.—Smaller and more superficially situated. Vesicles unilocular; evolution more rapid; suppuration often incomplete.
9. Suppurative fever.—Most often absent.
10. Eruption.—Numerical severity exercises much less influence over constitutional disturbances.
11. Complications.—Almost entirely absent in para-small-pox. Two cases of keratitis profunda observed among the Chesterfield cases.
12. Disfigurement.—Extremely rare for para-small-pox to leave behind any permanent traces on the skin.
13. Fatality.—Para-small-pox fatality is *nil*.

In the concluding stages of his address Dr. Garrow dealt with the vaccination question. He was convinced about the clinical differences between small-pox and para-small-pox in the mass, and regarded the vaccination statistics of para-small-pox as furnishing equally conclusive proof of the close biological relationship between the two diseases. In the Chesterfield epidemic there was not a single case of small-pox in a revaccinated person. Of those vaccinated in infancy the youngest patient was 17 years old. From this it would appear that the protection afforded by vaccination against the mild disease is of longer duration than against virulent small-pox. Among the unvaccinated children in Chesterfield up to 15 years of age there were 277 cases of small-pox; among the vaccinated in the same age group not a single case. Continuing, Dr. Garrow said that the number of cases occurring in a house was determined, not by the sanitary state of the dwelling or the overcrowding therein, but by the number of unprotected individuals. In many of these houses every unvaccinated member of the household was attacked and removed to hospital, while every member protected by vaccination escaped. He regarded para-small-pox as more difficult to control and stamp out than small-pox proper. Vaccination afforded protection as complete and more lasting than against the virulent disease. Reasons for the difficulty were to be found in the long prodromal period and the interval between the initial appearance of the rash, making it more difficult to trace contacts. A further difficulty was occasioned by the extreme mildness of the disease causing delay in diagnosis and consequent exposure of large numbers of people to infection. In Dr. Garrow's opinion the present situation emphasizes the importance of general vaccination of the entire community in order to put an end to the heavy expenditure of public money on the hospital isolation of the disease, which is not required for the nursing of the case and which plays such a small part in its control.

A discussion followed, and Dr. Garrow was heartily thanked for his very interesting address.

SMALL-POX IN THE COUNTY OF DURHAM.

We have received from Dr. T. Eustace Hill, medical officer of health for the county of Durham, a letter stating that he has read the leading article on the spread of small-pox, published on May 23rd (p. 974), with great interest, and expressing the opinion that every medical officer of health will agree with the views therein contained. Dr. Hill also informs us that a conference of medical officers of health and medical officers of small-pox hospitals in the county was held in Durham on May 14th. The conference was largely attended, and it was officially stated that while during the first quarter of 1925 there had been 45 cases of small-pox (of which 25 were in West Hartlepool), in the county of Durham among six sanitary districts, during the five weeks of the second quarter, ended May 9th last, there had been 41 cases in the county among thirteen sanitary districts. The present available accommodation for small-pox patients was also considered by the conference, and there was a very strong feeling expressed that in many districts there was urgent need for further accommodation. The conference adopted a series of resolutions, which Dr. Hill has since sent to the sanitary authorities and small-pox hospital authorities in the county. They were to the following effect:

1. That in view of the serious danger which at present exists of small-pox becoming epidemic in the North of England, every small-pox hospital authority should at once, in consultation with its medical officer, review the adequacy of the accommodation provided in its hospital for cases of small-pox, and, where necessary, at once take steps to provide additional beds; and that each hospital authority should at once make such arrangements as will enable it to provide further temporary hospital accommodation for cases of small-pox at short notice.
2. That the small-pox hospital authorities of the county, which have provided accommodation for small-pox cases, should at once enter into a pooling arrangement by which small-pox patients from any district in which the small-pox hospital beds are fully occupied can be at once admitted into the hospital of another district where beds may at the time be available, the full cost incurred by the hospital authority receiving the patients to be refunded by the hospital authority of the district from which the patient was removed.
3. That the importance of every small-pox hospital being provided with an efficient steam disinfecting apparatus be urged upon the hospital authorities in the county.
4. That as a temporary measure, and with a view to assisting in the detection of unrecognized cases of small-pox, the notification of chicken-pox be made compulsory in every sanitary district.

HUMANE SLAUGHTERING OF ANIMALS.

A report on the humane slaughtering of animals has recently been presented to the Corporation of the City of London by the Sanitary Committee. It embodies a report on the work of three principal officers whose duties are related to the question. The three are Dr. W. J. Howarth, medical officer of health, Mr. James R. Hayhurst, chief veterinary inspector of the Metropolitan Cattle Market, and Mr. T. D. Young, the Corporation's veterinary surgeon. The subject has been under consideration for some time, but the immediate occasion for dealing with it was a petition from the Council of Justice to Animals signed by their chairman, Mr. C. Lionel Hanington. That society urged that Clause 9 (B) of the Ministry of Health's model by-laws for slaughterhouses be passed by the Corporation. In the petition it was pointed out that ninety boroughs had already passed the by-law and that 623 medical consultants in London had in 1923 urged the adoption of the clause. Its terms are as follows:

"A person shall not in a slaughterhouse proceed to slaughter any animal until the same shall have been effectually stunned, and such stunning shall, except as hereinafter provided, be effected with a mechanically operated instrument suitable and sufficient for the purpose. Provided that this by-law, so far as it would require the stunning of sheep and the use of a mechanically operated instrument, shall not apply until the expiration of three months from and after the date of the confirmation of these by-laws. Provided, further, that this by-law shall not be deemed to apply to any member of the Jewish faith, duly licensed by the Chief Rabbi as a slaughterer, when engaged in the slaughtering of cattle intended for the food of Jews according to the Jewish method of slaughtering, if no unnecessary suffering is inflicted."

The three reporters have been unanimous in recommending the by-law in respect of (*a*) cattle, including calves; (*b*) horses; and (*c*) pigs, the flesh of which is to be consumed as fresh pork. They differed, however, concerning sheep, Mr. Hayhurst and Mr. Young advising that these be excluded from the by-law, while Dr. Howarth was in favour of their inclusion. The Sanitary Committee adopted the view of the majority, and the Council itself has concurred. As embodying the conclusions reached on this and other points by the Sanitary Committee, after conference with the Cattle Markets Committee, Dr. Howarth drafted the following resolution:

"That this committee, having considered the report of its officers on the humane slaughtering of animals, and having heard the views of duly appointed representatives of the Council of Justice to Animals and of the Union of London Retail Meat Traders' Association Incorporated thereon, and having considered the effect which the adoption of Model By-law 9 (B) would have on the work at Islington Cattle Market, is of opinion that the time is now opportune for definite regulations to be framed to control and regulate the slaughtering of animals intended for human consumption, and, furthermore, is of opinion that any additional powers in this connexion should be of general application throughout the country, and that in order to secure uniformity it respectfully submits that such regulations should be issued as compulsory regulations framed by the Ministry of Health."

This was adopted by the Committee, and became in effect the finding of the Corporation. It will be observed that to secure uniformity it is urged that the by-law should be applied throughout the country and should be made compulsory by the Ministry. The three officers in their report consider the question in detail. The first essential in satisfactory slaughtering is that there shall be efficient bleeding, because blood rapidly putrefies, especially in hot countries. Unnecessary pain must not be inflicted, time should be saved, and there should be avoidance of damage to edible parts. Various methods have been used, bleeding being effected in all of them by cutting the throat. Preliminary stunning may be done by the hammer, mallet, or maul, or by the poleaxe. Alternatively, unconsciousness may be produced by mechanically operated instruments, the mechanism forcing either a bullet or a captive-bolt through the bony structures of the head. The bullet is actuated by an explosive cartridge; the bolt by a direct blow, a spring, compressed air, or a cartridge. The reporters made observations of the effect of two instruments of the bolt-propelling type, one known as the Cash pistol and the other the Temple Cox apparatus. The conclusion reached was that an efficient mechanically operated instrument is more to be depended on than the poleaxe, even when that is in the hands of the most skilled slaughterman. No exception could be taken to the efficiency of bleeding after stunning, and there is neither waste of time nor damage to the carcass when such an instrument is used in substitution for the poleaxe. Objections, however, have been raised to the mechanical apparatus in the case of pigs, on the ground that though the fresh pork may be all right, the use of the mechanical apparatus affects prejudicially the preparation of bacon. The reporters therefore recommend that additional information be obtained on this particular question; it has been agreed to adopt their recommendation. The Jewish method of slaughtering, which is carried out according to a religious ritual and without preliminary stunning, is described and discussed in the course of the report.

HEALTH OF LONDON IN THE EIGHTEENTH CENTURY.

At the last meeting of the Section of Epidemiology and State Medicine of the Royal Society of Medicine Dr. John Brownlee read a paper on the health of London in the eighteenth century. He first of all exhibited tables making it probable that there was a considerable influx into London towards the end of the seventeenth century, but that thereafter, down to the end of the eighteenth century, the population was almost stationary, and that the general rate of mortality (making allowance for the ageing of the immigrants at the end of the seventeenth century) also changed very little. In a general way there was not much difference between eighteenth century London and the most unhealthy urban area in the nineteenth century for which a life table had been constructed—namely, Manchester township. Dr. Brownlee called attention to the increased proportional mortality from phthisis which the London bills exhibited, and concluded that there was probably a real increase of phthisis in the last decades of the eighteenth century. He illustrated on the plague statistics of Bombay the movement in time of the maximum of an epidemic, and pointed out very remarkable changes in the seasonal incidence of mortality from convulsions and infantile diarrhoea in London. Mortality from measles was also illustrated. In opening the discussion, Dr. Major Greenwood referred to the writings of Woolcombe, Sir Gilbert Blane, Sir James Clark, and Farr on the alleged increase of phthisis at the beginning of the nineteenth century. Blane's remark (made in 1815) that "consumptions have been observed to be more frequent of late among young adults, probably from a greater number of sickly children being saved" was of interest. Dr. T. P. Beddoes thought the timing of an epidemic of plague was mainly dependent on the date of movement of stocks of grain. Sir George Buchanan wondered whether the nomenclature of diseases in the bills was sufficiently satisfactory for comparisons. The discussion was continued by Dr. A. K. Chalmers, Dr. John Carswell, and the President (Dr. John C. McVail), who all congratulated Dr. Brownlee on the great value of his contribution to the history of mortality in London.

WESTMINSTER HOSPITAL.

The work of the department of pathology and bacteriology at the Westminster Hospital has considerably increased since its reopening last July. An offer of £20,000 has been received from Mr. A. J. H. Carlill towards the endowment of a Carlill chair of pathology. The House Committee, in consultation with the medical staff and representatives of the Senate of London University, have prepared a scheme for a unit of pathology, which is at present under consideration by the University and its Grants Committee. The new unit should prove to be of great practical value to the patients, medical staff, and the students. The hospital at present has an overdraft of £15,000 on the maintenance account, and as soon as this has been extinguished an effort will be made to obtain funds for research work, particularly in connexion with cancer. The hospital at present possesses no radium, and this handicap will be removed as soon as possible. The number of patients treated in the wards since the hospital reopened is 2,786, as compared with 2,173 for the corresponding period of 1922-23. The out-patient figures have increased by 35 per cent.

Medical Notes in Parliament.

[FROM OUR PARLIAMENTARY CORRESPONDENT.]

AMONG Acts to which Royal assent was given before the House adjourned for Whitsuntide were the Protection of Birds, Rent and Mortgage Interest (Restrictions Continuation), Imperial Institute, and Poor Law Emergency Provisions Continuance (Scotland) Acts.

The House of Commons will be occupied with the Committee stage of the Finance Bill for the whole of next week after reassembling on June 9th. The Public Health Bill and the Rating and Valuation Bill will be considered in Grand Committee.

Ministry of Pensions Debate.

During the debate on the Ministry of Pensions vote for £66,026,000, the Minister, Major Tryon, estimated that in 1925-26 medical treatment and services would cost £2,847,000, compared with £3,559,000 in the previous year. It was a declining charge because, apart from chronic cases, disabilities were to an increasing extent reaching a stability where normally no further treatment was likely to be wanted. The death rate among disabled men remained fairly stationary at about 13 per 1,000 annually, a rate about the same as that of the general population. The number of cases in which there was such an improvement in the disability as to warrant a reduction in the rate of compensation was necessarily diminishing. Last year in 17 per cent. of the cases examined there was a reduction in pension and in 26 per cent. an increase. On the pensions list at present there were 615,000 officers and men, of whom more than half had received final awards and were relieved from the trouble of medical re-examination. The majority of men on the pension list had been found to be steadily improving in health, thanks above all to medical treatment, and had been pursuing normal occupations at a normal wage, except so far as they were affected by industrial depression. The Minister defended the system of final awards, saying that they did not imply recovery or that there might not be some slight fluctuation up or down, but they meant that a condition of normality had, in medical judgement, been reached. The Ministry took the highest professional medical advice in regard to each kind of disablement, and in accordance with that advice the final award was made. Of over 100,000 men who had received final awards, less than 20 per cent. had appealed, and in only 5 per cent. of those appeals did the tribunal consider that the man's condition justified a life pension. Medical treatment became the medium through which error, if any, in a final award was disclosed. The mere fact that medical treatment was necessary after a final award did not mean that the award was wrong. But where treatment showed that the diagnosis of the case had been faulty or the prognosis had been wrong, and the error had involved a serious underestimate of the man's disablement as a permanent matter, the Minister was able to recommend the case for further compensation. Major Tryon announced that he and his predecessor, Mr. F. O. Roberts, had so treated 700 cases. The Minister also defended the seven-year limit on claims for pensions, and said that a claimant for pension was asked to do no more than get some account of his past medical history from his panel doctor or his approved society.

In moving the reduction of the vote by £100, Mr. F. O. Roberts referred to the treatment of men in training centres, and thought that from the medical view it had been a mistake to take these centres away from the Ministry of Pensions. He urged closer co-ordination with the Ministry of Health and the Ministry of Labour, particularly as regards tuberculous cases. There was always a doubt after this long period of time about the association of this disease with war service, and all sorts of difficulties seemed to crop up in the case of these tuberculous men. He paid tribute to the work done at Papworth, Enham, Preston Hall, Blackpool, Rectnall, and Epsom, and said there would have to be an extension of such centres.

Mr. Macpherson said that during three years £55,000,000 had been spent on medical treatment, and the taxpayer expected to see a reduction in the cost. In regard to the time limit on claims for pensions, Mr. Macpherson said that when he was Pensions Minister his medical boards had advised him that four years would be a good period, but he had fixed it at seven.

After a long explanation by Commander Astbury about a statement he made in December last, and a long argument in which Commander Astbury took the leading part, Lieut.-Colonel the Hon. G. F. Stanley, Parliamentary Secretary to the Ministry of Pensions, gave a general exposition of the medical work of the Ministry, which, he said, had been one of the most wonderful achievements of the war. To medical science the war was as revolutionary an experience as it was to the science of warfare, and the bare magnitude of the demands made on medical science created by the war was completely without precedent. Fresh problems arose on a scale that was absolutely unknown, and the medical profession had to mobilize all its resources and all its skill in order to grapple with the many problems arising out of the war. The way in which the medical profession met that demand would always be a lasting memorial to its skill and science, and many men walking about now would bear willing testimony to that memorial. At one time the Ministry had 113 hospitals and 650 clinics, which, when established, were a new feature in public medicine. Treatment for wounds and injuries under the Ministry did not stop short, as it often did in the case of civil hospitals, at operative or other immediate treatment. The medical branch of the Ministry decided to include the whole range of orthopaedic treatment—the process of restoring nerve and muscle to the injured part. That meant the establishment of massage and electrical treatment and the provision of curative workshops. The Ministry had run fifteen orthopaedic hospitals of its own and sixty clinics in which supplementary orthopaedic treatment was given. This class of case had on the whole yielded better results than almost any other. Naturally the numbers were diminishing, and at present the Ministry was maintaining eight hospitals for this purpose and forty-four clinics for treatment for cases of injury. Major Stanley had protested against men who had lost their reason by war service being described as pauper lunatics. But the State insisted on them being treated as private patients. The Ministry had not provided private hospitals for these men because their relatives objected to their being removed to any distance. In neurasthenia as distinct from mental disease no pains were spared to get a man back to normal, and the experts agreed that the best cure was to get a man back to normal life and occupation as soon as possible. The Ministry had had twenty neurological hospitals and forty-eight clinics for this purpose, and had to draw heavily on the members of the medical profession who had given special study to neurasthenia and had to train a large number of specialists of their own. A large number of men had been handled in time and restored to their normal condition. On the other hand, there were the border-line cases. The Ministry went to extreme lengths so as not to certify them, and had several establishments, the largest at Ewell, to deal with such cases. On the whole they had been exceedingly successful. They had gone further and had two establishments for certified cases—one in the north and one in the south—where selected cases were sent by agreement with the medical officers of the Board of Control. Unfortunately, the relatives of some of the most suitable cases objected to their removal to these establishments, and up to date the experiment would not justify any considerable extension. The arrangement in conjunction with the Ministry of Health to provide training for the tuberculous ex-service man after his ordinary course of sanatorium treatment had not been quite a success. A man having finished his sanatorium treatment did not care to stay away from his family for an extra year to complete his training. Now when a man was going to be discharged from the sanatorium the medical officer of health and the employment exchange manager were notified so that every effort would be made to get him some work, and, if necessary, more suitable habitation. The Ministry was spending some £2,000,000 a year in allowances for the tuberculous.

Colonel Stanley added that there was a slight increase in the estimate for artificial limbs, as they were replacing the old heavy limb by a lighter one which cost more but would last longer and was a far greater comfort to the men. In conclusion, Colonel Stanley said that the Ministry had spent £60,000,000 in medical treatment alone, and he declared they owed a great debt of gratitude to the medical branch of the Ministry.

Mr. Merriman said that for five years he had been an additional president over a pensions appeal tribunal. He suggested that some awards confused termination of a disability with quiescence, and gave instances where a man who suffered in warm weather from a series of colds was held, by a board in January, to have had his aggravation terminated, and a similar verdict was passed in July on a man whose rheumatism flared up in winter. He remarked that there was sometimes an undue insistence on the absence of hospital records, which were asked as confirmatory evidence that there was a disability during service. This applied to the tuberculous cases, where it was insisted that there should be a continuous history suggestive of tuberculosis dating back to within a year of the date of demobilization. The man who was in the greatest difficulty was the man who had had a series of ordinary colds, influenza, and things of that sort, in regard to which he had managed to contrive that he should never be sent down to hospital. They could always get hospital records for the man who wanted to make a case. It was the man who had stuck to duty in respect of whom there was an absence of hospital records.

Mr. Pielou said it was impossible that the employment exchanges could find a position for a man suffering from tuberculous disease. The only solution was the setting up of village settlements. If members who opposed this scheme could visit Papworth and see the work carried on under Dr. Varrier-Jones their views would be considerably altered. Of the 55,000 men suffering from tuberculosis for whom the Minister had accepted responsibility, 15,000 had already gone. An interdepartmental committee in 1919 recommended the expenditure of £1,000,000 on village settlements, but only £20,000 had been spent, whereas huge sums were wasted on sanatorium treatment. The man went back to housing conditions and work which did not suit him, and was soon as bad as before.

Dr. Drummond Shiels confirmed Mr. Merriman's remarks about the doubts expressed when a man was found to be suffering from tuberculosis and there were no records of influenza or anything of that sort on his medical history sheet. It was the same with other conditions. Gastric ulcer, cancer, and cerebral haemorrhage were practically ruled out as impossible to be connected with war service. Many cases of gastric ulcer had followed digestive trouble arising from irregular feeding or faulty feeding during army service. But if the man had carried on despite his indigestion, he was now told that the gastric ulcer was entirely unconnected with war service. Although it was difficult from a medical point of view to connect cerebral haemorrhage with war service, the strain, anxiety, and discomforts of army life might have had a predisposing tendency in many cases.

Dr. Shiels contended that the Ministry was much inclined to stand by a technical death certificate. He had a case of a man who died after a long-standing injury of the leg sustained in the war. There was an open sore. The man was in hospital a few weeks before death. He suddenly became very ill and died in a week. There had been a young locumtenent engaged in the case, and he put down the cause of death as intestinal paralysis, which was the terminal condition. To anyone familiar with

medical matters at all, the whole case spoke of septicaemia (blood poisoning) as the result of the injury to his leg. But because this young doctor had put intestinal paralysis on the death certificate—the actual and immediate but not the primary cause of death—this man's widow could not get a pension. There were many of these cases. It was rather unfortunate that medical men were employees of the Ministry. It would have been much more satisfactory had they been independent of it, because there was a tendency, unconsciously, to feel that they were appearing for the Ministry of Pensions, and that it was the Ministry of Pensions *versus* the man. Anyone who had been to an appeal tribunal, and spoken for ex-service men, must have felt that sort of atmosphere on many occasions.

Sir Wilfrid Sugden said he had gone to the trouble of obtaining details of the procedure regarding medical inspection, adjustment, and entitlement in the United States, France, Belgium, Germany, and Italy. None of these countries provided for even so thorough and equitable a judgement as obtained at present in this country, both as regards committees, medical boards, the very rightful provision for ex-service men sitting on adjustment committees and pension grant committees. Major Tryon replied to the debate, and the motion for the reduction of the estimate was defeated by 279 to 149.

Small-pox and Vaccinia Mortality.—Sir Kingsley Wood supplied Mr. Trevelyan Thomson with the average annual deaths in England and Wales from small-pox and from vaccination by decennial periods. In 1861-70 the average was: small-pox 3,421, cow-pox and other effects of vaccination 10; in 1871-80, 5,705 and 29; 1881-90, 1,228 and 52; 1891-1900, 406 and 43; 1901-10, 429 and 19; 1911-20, 14 and 9.

Morphine Exports.—Answering Mr. Campbell, the Home Secretary gave details of the amount of morphine exported from Great Britain during 1924, of which practically all was of British manufacture. The export to Europe was 60,080 oz., including 7,592 oz. to Austria, 4,462 oz. to Czecho-Slovakia, 13,763 oz. to France, 7,481 oz. to Germany, 4,661 oz. to Holland, and 3,340 oz. to Spain. To Asia the export was 12,505 oz., including 1,888 oz. to China, 2,126 oz. to India, and 7,411 oz. to Japan. To Africa the export was 1,401 oz. To America it was 9,128 oz., including 6,042 oz. to Canada, and to Australasia 5,757 oz., including 2,899 oz. to New South Wales. The grand total of morphine exported in 1924 was 88,871 oz., compared with 98,831 oz. in 1923, 131,658 oz. in 1922, 77,364 oz. in 1921, and 322,672 oz. in 1920. A condition that the morphine should not be re-exported had not been proposed by the League of Nations and was not insisted on when the British Government was satisfied that adequate control over exports was exercised by the importing country.

Correspondence.

DISEASES DUE TO FASHION IN CLOTHING.

SIR,—I have read with great interest Dr. Parkes Weber's article upon this subject in the BRITISH MEDICAL JOURNAL of May 23rd (p. 960), and I support the view that a serious form of persistent cyanosis of the feet and legs may, in some cases, be an outcome of insufficient clothing.

To Dr. Drybrough-Smith of Hastings I am indebted for such an example in an athletic young lady, who herself dated the cause of her trouble from getting daily chilled from insufficient clothing. Regardless of being at that time in residence in a colder climate than that of her home, she admitted that she had foolishly persisted with her scanty garments.

It is indeed remarkable how intractable these cases are in response to treatment, and it would seem, as Dr. Parkes Weber suggests, that there must be serious damage to the capillary circulation. As a mere man, and more particularly as one who has had the honour of teaching many lady doctors, I am too cautious to reason with young ladies, but try to give them what I believe to be facts. At the moment, about ladies' clothes, there are few facts, though as a doctor one is grateful for the remarkable swiftness with which they can be discarded for medical examination.

If, however, Dr. Weber's contention proves, as I believe it to be, essentially correct, I should like to add my testimony to warn against the serious condition that results from such chilling.

It is to be supposed that such cases are exceptional, and it may be that Dr. Weber, Dr. S. Dore, Dr. A. W. Scott, Dr. H. MacCormac, Dr. G. M. Meachen, and others, including myself, are wrong; but if we are right I hope all medical women will use their great influence and remind parents, and more especially their daughters, of the fact that in cold, changeable climates, age-long experience has proved the need, in cold weather, for warm clothing. They, doubtless, will be ready to counter the instant reply, "We are not going to be stuffy old Victorians."—I am, etc.,

London, W.1, June 1st. F. JOHN POYNTON, M.D., F.R.C.P.

SIR,—I was much interested in Dr. Parkes Weber's reference, in his article in your issue of May 23rd (p. 960), to a form of chronic erythema of the legs in young women, associated with the wearing of short skirts and silk stockings, as for some time I have been acquainted with a similar case in which I had, in ignorance of previous writings, assigned a causal part to the prevalent short skirts and thin stockings. This is a chronic painful erythema between knees and ankles in a woman aged 43 years, becoming aggravated in winter, but improving very much in summer, and improving also by a rest of several days in bed. Slight superficial varicose veins are present. I had, however, differed entirely in my explanation of the causation, as I had put it down to lack of protection, not from cold, but from heat rays furnished by the ordinary domestic fire, and was supported in this view in that an afternoon in a chair close up to a good fire was always followed by an exacerbation of symptoms, while there seemed no relation to exposure to cold out of doors. The sites of maximum intensity, on the outside of the right calf and the inside of the left one, were the parts most exposed to heat rays in a person sitting in the patient's usual chair, on the right hand of the fireplace. This patient has no tendency to chilblains.—I am, etc.,

Guisborough, May 25th. C. R. GIBSON.

VOMITING IN INFANCY.

SIR,—It is not, I think, possible to debate all the points which Dr. Parsons raises in his letter (May 23rd, p. 986) without needlessly reiterating much which was said in the lectures. The difficulties raised are precisely those which I attempted to explain.

I do not myself find it difficult to suppose that in these disorders of peristalsis in the young infant hypertrophy develops with a rapidity unknown in other conditions and at a later age. I think that I have traced the development of hypertrophy with the same rapidity in achalasia, both of the ileo-caecal valve and at the anus.

For the rest it is a difficult matter to compare the boundaries set by anatomical terms with those of function. It is clear that the contractile cylinder includes those parts of the gastric tube which have been called the "pyloric canal" and the "vestibule." An *x*-ray examination will often show the contractile cylinder in a phase of relaxation with a wide lumen. After death or at operation the lumen of the pyloric canal is completely obliterated, that of the vestibule remains patent.

I think Dr. Parsons must be wrong in attributing a peristaltic function to the cardiac portion of the stomach. The term "contractile cylinder" has no meaning if the whole stomach has this function.—I am, etc.,

London, W.1, May 26th. H. CHARLES CAMERON.

CLEAN MILK.

SIR,—Dr. Chalmers Watson has recently stated that none of the leading general hospitals or children's hospitals in this country have yet given this subject serious consideration. Presumably he refers to the large voluntary hospitals, which are still the leading hospitals in most matters connected with the technique of surgery and of curative medicine. If, however, one looks to them for a lead in matters connected with preventive medicine, one will, as a rule, be disappointed.

It must now be evident to Dr. Chalmers Watson from the correspondence on this subject that he was not quite just to local authorities and their hospitals in his original article. Even in his letter of May 17th, in referring to the recent introduction of certified milk to the Paisley municipal hospitals, he states: "So far as I am aware, Paisley has therefore the distinction of taking the lead in establishing a much needed reform." Grade A milk (Food Controller's designation) from a tuberculin-tested herd has been in use in the Burgh Infectious Diseases Hospital, Motherwell, and the Wishaw Tuberculosis Hospital since March, 1922, and in the Carnegie Child Welfare Centre and the Maternity Home, Motherwell, from the

date of opening in June, 1923. I well remember that first day of the use of Grade A (tuberculin tested) milk over three years ago, when so many of the convalescent children in the fever hospital asked for a second supply of porridge, because, as they said, "they were getting cream with it."

Further, I know that the Middle Ward District of the county of Lanark arranged for a supply of Grade A (tuberculin tested) milk to its hospitals fully a year ago, and I have no doubt that other local authorities have done so also.

That it is a reasonably economical proposition is, I think, proved by the fact that my town council has just recently contracted for a year's supply at an average price throughout the whole year of 1s. 6½d. a gallon, for a fluctuating daily supply of about 40 gallons delivered at the nearest railway stations.

As to the education of public opinion on this subject—a matter also mentioned by Dr. Watson—I may say that in June, 1923, at a largely attended public meeting, the National Clean Milk Society's film, "Production of certified milk on an English farm," was shown in the Carnegie Child Welfare Centre, Motherwell.—I am, etc.,

H. STANLEY BANKS,
Medical Officer of Health, Motherwell and Wishaw.

May 25th.

SIR,—In view of Dr. Chalmers Watson's admirable propaganda in connexion with supplies of clean milk, and the correspondence appearing in your columns, it appears desirable to put on record the Aberdeen position.

In October, 1924, Aberdeen Town Council gave authority for the use of certified milk in all the public health institutions of the city. These include the City Fever Hospital and Tuberculosis Hospital, Burnside Home for Mothers and Babies, Loch Street Home for Mothers and Babies, and the Charlotte Street Day Nursery. At the same time the council authorized that certified milk only should be supplied to all mothers and children obtaining milk in their homes from the Health Department, and also to all tuberculous patients similarly receiving milk in their homes.

With a view to encouraging the production of certified milk, the Aberdeen dairymen have been informed that the town council contract will necessarily be divided among dairymen retailing it. At the same time, producers of milk in the Aberdeen area have been assured that the Health Department will do everything in its power to assist them should they be prepared to supply certified milk. Thus, whenever a dairyman is prepared to supply certified milk, the Public Health Department is prepared to analyse the milk samples twice weekly, free of charge, and to send the results of the analyses, both chemical and bacteriological, to the milk producer for his guidance. The milk producers have also been informed that they will be given a period of some six months in which to adjust their production of milk, so that it meets the certified standard, without any interference from the Health Department apart from helpful advice. The milk producer who at present holds the Aberdeen Town Council contract for certified milk is using the bacteriological counts, as supplied by the Health Department, to form the basis of the bonus system on which he pays his workers. Thus, the milk counts as sent to the milk producer are posted on a notice board every week at the two farms producing the milk, for the information of the workers, who receive a bonus to their wages, descending in amount according as the count of the milk ascends from under 5,000, under 10,000, under 15,000 organisms, and so on.

When certified milk was thus introduced into Aberdeen some seven months ago, all the medical practitioners of the city were circularized, urging them to do everything in their power to get their patients to use certified milk in their households.

The wide publicity given by your columns to the matter of a clean milk supply is of the most useful description, and will, I am confident, be productive of much good.—I am, etc.,

J. PARLANE KINLOCH,
Medical Officer of Health, Aberdeen.

May 25th.

SIR,—The correspondence in the BRITISH MEDICAL JOURNAL on clean milk, following on the article on grading of milk by Dr. Chalmers Watson in the *Scotsman*, prompts me to point out that at this sanatorium we have used certified milk or its equivalent since 1915—"equivalent" because at that time there was no official grading, but the milk was of the same high standard, and from the same farm (Storms Farm Dairy, near Keswick). We were, in 1915, about to build a dairy modelled on that at Coombe Bank, near Sevenoaks, and had calculated it would then cost us about 5d. a quart, as against the local price of 3d. Mr. J. A. Spedding, J.P., of Storms, was at the same time interested in the problem, and through his energy we were enabled to obtain the highest quality at an intermediate figure. It is of great interest to note that the bacterial content of the Storms milk has been as low as 10 per cubic centimetre.—I am, etc.,

W. GOODCHILD.

Blencathra Sanatorium, Threlkeld, Cumberland, May 25th.

SIR,—I am glad to learn from the correspondence in your columns and other letters that I have underestimated the number of local authorities who are encouraging the production and consumption of clean milk. The statements in my original communications were made tentatively, and were the results of definite inquiry in quarters likely to be well informed on the subject. The correspondence has revealed that, in addition to those referred to in my communication, the public health authorities in Aberdeen, Motherwell, Wishaw, Lanark, and Hawick in Scotland, and Leicester in England, have gone in for clean milk, and it is probable that the list could be extended. The additional information learned merely emphasizes the point made in my communication as to the progressive action of the public health authorities in this direction. The attitude of the public health authorities on the subject was, however, a quite subordinate part of my communication. I raised the question whether any of the leading general hospitals, children's hospitals, or maternity hospitals in this county—apart from those officially under public health authorities—had yet given the subject serious consideration, and the question applies very specially to hospitals utilized for the purpose of medical education. On this point the correspondence has not added any information.—I am, etc.

CHALMERS WATSON, M.D.

Edinburgh, May 30th.

IMPORTANCE OF EXPLORATORY INCISION IN CANCER OF THE BREAST.

SIR,—With Mr. Duncan C. L. Fitzwilliams's lecture on "The importance of exploratory incision in cancer of the breast" (May 23rd, p. 953) most practitioners will agree. His logic illuminates a problem that faces all of us too often. Many must share his impatience with stereotyped methods of diagnosis and prognosis—notably, perhaps, with that delusive faith in flat-hand differentiation—and one at least of his readers would have received his message in mute admiration had he chosen a title less ambiguous and defined more strictly the limits to his surgery. But cases come to mind. Let me briefly recall one. A stout, well coloured woman of about 40, consulting me about another matter, mentioned her breast. She "thought there was something there." I felt a little tumour and sent her to hospital at once. Three days later she returned to say she had been told there was nothing in the breast. She consulted a surgeon, was admitted to hospital, and underwent operation eight days after I first saw her. Her case excited some interest, for certain of the staff maintained there was no tumour. Incision revealed a growth no larger than a big hazel-nut. Still doubtful as to its nature, the surgeon cut into it *in situ*, and then at once, as it seemed malignant, removed the whole breast with some glands from the axilla. A pathologist confirmed its malignancy. Recovery was uneventful. That was in mid-March, 1908. Eight months later I saw the patient again. She had clear evidence of cancer in the lung. To relieve pleural effusion I had to aspirate five times. She died on February 2nd, 1909. There is every likelihood (*a*) that incision into the growth had caused metastasis, and (*b*) that operation on the lines suggested by Mr. Fitzwilliams would have saved her life.

But in view of these facts, and of the fact that some surgeons still incise *in situ* with an erroneous notion of squaring their consciences, I would suggest that Mr. Fitzwilliams, before he republishes the lecture, change its title to "The importance of exploratory operation in tumour of the breast," and underlines the risks inherent in opening any tumour *in situ*.—I am, etc.,

Belfast, May 25th. ROBERT WATSON, M.D.

ULTRA-VIOLET LIGHT.

SIR,—It is probably true that the high amperage carbon arc affords a spectrum which most nearly approaches that of the Swiss alpine sun. That fact alone, in my opinion, renders it unsuitable for the treatment of cases of definite disease, as the necessary technique will involve daily continuous exposures of three or more hours for a period of a year, or even longer, in such diseases as surgical tuberculosis and lupus. For patients to have to sit still at a distance of three feet from an arc light for such prolonged periods puts a strain upon human endurance. In addition to this drawback is the graver disadvantage that the treatment has to be carried out in enclosed rooms, the atmosphere of which is being poisoned by the carbon monoxide and dioxide gases given off by the burning carbons. No doubt such lamps have a distinct sphere of usefulness in giving prophylactic light baths.

The mercury vapour lamp has not these disadvantages. On the other hand, its fragility and varying output render it unreliable. It takes a variable time to "warm up" after starting the arc, and, until then, its output of ultra-violet rays is negligible. Also, there is a gradual deposition of metallic mercury on the inner wall of the quartz tube, which more and more, as its life proceeds, "filters" out the ultra-violet rays. Even with this lamp exposures, therefore, have to be unduly long and repeated.

The tungsten arc lamp has many advantages over other sources. Its output is far the richest in ultra-violet emanations, the spectrum showing an almost continuous band down to wave-length 180. In quantity the ultra-violet radiation emitted shows a still greater preponderance. The only variable factors—target skin distance, amperage, and exposure time—are under the control of the operator. If the shorter wave-lengths are not required all that is necessary is to increase the target skin distance, the intervening atmosphere absorbing them. The tungsten arc lamp is richer also in its luminous spectrum, and especially in the red and infra-red rays, so that there is no need, as in the case of the longer exposures required by the mercury vapour lamp, to supplement the light by the use of heat rays from some other source.

With the tungsten arc lamp I very rarely have to exceed an exposure of five minutes, and generally find that one exposure a week is all that is required. Indeed, I am quite certain that in many cases a wrong technique is adopted by giving too frequently repeated dosage. The tungsten arc can be modified also by using one electrode of carbon and one of tungsten. The tungsten arc lamp is as great an advance over the mercury vapour lamp as is the Coolidge tube over the old gas-filled tube in *x*-ray work—that is, for operators who desire to standardize their dosage and results.

Actino-therapy is as yet in its infancy and is but imperfectly understood. There are already too many tyros in the field, and their numbers are being added to daily. A scrutiny of an instrument maker's catalogue seems to assure some doctors that all they have to do is to purchase a lamp and turn on the switch and they are already fully competent actino-therapists. I am afraid that this belief is going to lead to disaster and bring this branch of therapy into unmerited disrepute. The skin reaction or erythema is nothing to go by. It does not indicate the constitutional reaction. I have given dozens of doses to infants and children without any skin reaction, and yet have achieved the results I desired. Similarly with pigmentation, which, more often than not, is what one wants to avoid. If pigmentation occurs too early further treatment is useless, as the pigment acts as an impervious screen to the ultra-violet rays.

The personal factor or idiosyncrasy of the patient is of the utmost importance. No two patients react alike, and no patient reacts in the same manner to successive doses. Therefore it is of vast importance not to treat more than one patient at a time. The patient's physical and metabolic "poise" at the time of administration, the contents of the stomach and bowels, the time of day, the effect of any drugs which may be taken, are all factors of supreme importance. The effect of some drugs can be enormously enhanced or completely altered by a dose of ultra-violet light. The same applies to the collateral use of vaccines, serums, or endocrine preparations. If these things are borne in mind it is not difficult to realize why there seems to be differences of opinion as to the use and effects of ultra-violet rays between various authorities.

I would take this opportunity of warning the profession in the strongest possible terms of the danger of allowing patients to receive this treatment at the hands of any other than the most experienced operators. Never should nurses or other lay persons be allowed to give the treatment save under direct expert medical supervision and control—not even excepting such wonderfully skilled lay operators (as one is assured in the advertisements) whose services appear to be retained in the bath establishments of some of our spa resorts.—I am, etc.,

PERCY HALL, M.R.C.S., L.R.C.P.Lond.

London, W.1, May 16th.

HARVEY MEMORIAL AT HEMPSTEAD.

SIR,—In his letter in the JOURNAL of May 9th (p. 905), Mr. Hope Grant points out that a subscription of 2s. 6d. from every British practitioner would be sufficient to finance the project of rebuilding the tower of Hempstead Church, in memory of William Harvey.

I doubt if it would be possible to extract 2s. 6d. from every practitioner for any object on earth—or elsewhere. On the other hand, it should be quite easy to obtain twice that sum for such an object from at least half of us.

In this little town I have had no difficulty whatever in obtaining a subscription of this amount from every one of my colleagues, and have had the pleasure of forwarding them to the treasurer of the fund. If one member in each area will undertake this simple task, the thing will be done.—I am, etc.,

Maldon, Essex, May 31st. H. REYNOLDS BROWN.

MORPHINE IN PNEUMONIA.

SIR,—Many practitioners are guided more by principle than by theory in coming to the conclusion that hypodermic injections of morphine, whether modified or otherwise by atropine, should not be given in pneumonia.

Whilst in a large workhouse infirmary I had to deal with many cases of lobar pneumonia, and in the early acute pleuritic stages, where there was very severe pain, I rarely withheld this means of relief. Now if many refuse morphine in the early stages for the relief of pain, how many would give it at a later stage as a sedative, where other sedatives have failed?

As an illustration I take the case of a man of 48 with lobar pneumonia of the right base, who began to show some difficulty in sleeping about the third day, and was given 1 drachm of paraldehyde. I was away from home for three days, and was distressed on returning to find that the patient had been unable to sleep, though my deputy had given him gr. xxx of sulphonal on two successive nights. He was now restless, with a tendency to pick at the bedclothes, was semi-delirious, beads of sweat stood out on his forehead, and he had a slightly cyanotic tinge. The pulse was 120, the temperature 103.2°, and the respirations 42. Still, there was no generalized bronchitis, and the extra muscles of respiration were not being called into action. The chief feature was the restlessness, and I felt that here was a case where immediate action was called for. Morphine was risky, but I made up my mind to take the risk, and gave him a hypodermic injection of 1/4 grain of morphine with atropine, which soon took effect. I called again in four to six hours, and was delighted with the decided change for the better in his appearance. He had slept well, the restlessness had gone, the pulse and respiration were better, and there was a very obvious all-round improvement. He had a morphine injection every evening till the restlessness disappeared, and he made an excellent recovery.

I quote this as one case, but in many instances I have given it at the fourth or fifth day when there was restlessness which I felt no other drug could control. I know that this is in accordance with the teaching of many eminent authorities, but I also know that many doctors have a

rooted objection to sedatives on principle, and it is very possible that more patients die from withholding than from administering sedatives.

I make no reference here to acute bronchopneumonia, or to lobar pneumonia with generalized bronchitis, where the extra muscles of respiration are being called into action, and I assure critics that I give morphine injections only after much searching of heart, and then to none but adults.

The actions of opium and morphine are in themselves uncertain. We know that some patients merely sleep under their influence, whilst to others they bring excitement and a definite stimulation.—I am, etc.,

Middlesbrough, April 20th. JOHN M. MACPHAIL, M.D.

FRACTURE OF BOTH PATELLAE BY MUSCULAR ACTION.

SIR,—On seeing a case of simultaneous fracture of both patellae by muscular action reported in the BRITISH MEDICAL JOURNAL of May 30th (p. 1006), I thought it would be interesting to record a similar case which happened in my practice in the winter of 1903. A lady, aged 62, was walking quietly home from church on Sunday evening, when she stumbled and fell, not being able to rise. On getting her home I found transverse fracture of both patellae, which were wired by the late Mr. R. J. Pye-Smith of Sheffield. She went on quite well for a month, when she suddenly died of syncope.—I am, etc.,

Chesterfield, May 30th. W. M. CUMMINS, L.R.C.S.I.

Obituary.

JAMES PATRICK ANDREW WILSON, F.R.C.S.Ed., D.P.H.,

Formerly Principal Medical Officer to the Government of Johore.

WITH the death of Dr. James Patrick Andrew Wilson, on May 8th in a York nursing home, there passed away one of the pioneers of Western medicine in the native States of the Malay Peninsula. Dr. Wilson was born in 1858 in Edinburgh, where he received his medical education; he obtained the diplomas L.R.C.P. and L.R.C.S. in 1882, the F.R.C.S in 1892, and the D.P.H. in the latter year also. After some experience of general practice in Scotland, he went to the Far East as physician to the Sultan of Johore in 1885. He immediately set himself to organize a system of hospitals and dispensaries throughout that State, and his system became a model for the other native States in Malaya. He himself during many years was one of the best known and most highly respected members of the medical profession in the region having its centre in Singapore and the Straits. His holidays at home were spent in efforts to keep his knowledge up to date. In 1898 he retired from Johore, and commenced practice in Paisley, where he lived for seven years. In 1905, at the urgent request of the new Sultan of Johore, H.H. Ibrahim, he returned to that State as principal medical officer to the Government of Johore, and shortly afterwards the Sultan conferred on him the honour of knighthood ("Dato") of the Order of the Crown of Johore—D.P.M.J. After thirty years' service in Johore he returned finally to this country in 1920, and, hoping to continue his professional work, accepted the appointment of medical officer to Blackford Parish in Perthshire. Ill health, however, did not allow him to carry this on for more than a year or two, and he retired to his native city of Edinburgh. In his early pioneering days he suffered much from malaria, and in his later years he developed symptoms of sprue. Dr. Wilson was a very lovable man, and messages to his widow and family from the Sultan of Johore and from members of his family and council, as well as from many personal and professional friends in the Far East, testify to the honour and respect in which he was held in the region where he did so much to initiate and organize both the treatment of disease and a public health service.

THE LATE DR. C. B. KER.

PROFESSOR BERRY of the University of Melbourne writes as follows: Notwithstanding that the exigencies of geographical remoteness render my personal testimony to the memory of the late Dr. C. B. Ker a somewhat tardy tribute, loyalty to a dear dead friend demands it. To have known Claude Ker at all is a privilege; to have known him as I knew him—intimately, personally, and associated in a friendship such as falls to the lot of few men—is a priceless gift beyond verbal expression. Ker was a loyal soul: loyal to the honourable profession to which he was so proud to belong; loyal to the venerable city which he loved so well; loyal to his Alma Mater, of whose reputation none was so fearlessly jealous; and loyal, as are few men, to his friends. Dr. Ker's professional reputation as a world-wide authority on his chosen subject, infectious diseases, is firmly established by his writings and vast clinical experience in every medical school in the British Empire and beyond it, and will long outlast the few fleeting years of his life. But it was Ker the man, the delightful companion in leisured idleness, the keen lover of literature, the student of history, the learned Napoleonic scholar and collector, the wise and witty counsellor and friend—these it was which so endeared Ker to his intimates. Some few there are who will remember with affection and a quiet sense of humour those "football lunches" of his younger struggling days, those ever memorable meetings of the "fever board" held at the most unorthodox hours, those strenuous nights of travail which gave birth to the Edinburgh Royal Infirmary Residents' Club. Still fewer are there who will remember, as long as life lasts, Ker's truly happy and inspired moments at the Octagon—those few who bore him, with a proud mien and a sorrowing heart, to his long last resting place. Distance alone prevented a full meeting of the brotherhood. By these, at least, will Claude Ker long be mourned as friend, brother, genius, and gentleman. Like his beloved hero of fiction, he too has answered—*Adsum*.

MR. WILLIAM PERCY BLUMER, who died on April 12th in his 71st year, was the eldest son of the late Dr. Luke Blumer of Monkwearmouth. Mr. Percy Blumer received his medical education in Edinburgh, where he obtained the diplomas L.R.C.P. and S. and L.M. in 1876, and the F.R.C.S.Edin. in 1884. He was elected honorary surgeon to the Monkwearmouth Hospital in 1884, and in 1894 he joined the honorary surgical staff of the Royal Infirmary, Sunderland, where he remained until he retired in 1914 under the age limit. He was also honorary surgeon to the Durham County and Sunderland Infirmary. In 1914 he came to London and began practice at Muswell Hill; he retired about six months ago owing to ill health. He contributed numerous articles on surgical subjects to the BRITISH MEDICAL JOURNAL and other periodicals. G. B. M. writes: Percy Blumer was a most lovable man, who endeared himself to his patients and a large circle of friends. He was always ready to help a friend or colleague at any hour of the day or night. He was keenly interested in missionary and temperance work. He leaves a widow and two daughters, for whom much sympathy is felt; his only son was killed in the war.

Universities and Colleges.

UNIVERSITY OF CAMBRIDGE.

AT a congregation held on May 29th the following medical degrees were conferred:

M.B., B.CHIR.—F. M. Collins, R. E. Wilson.
B.CHIR.—N. R. Cunningham.

UNIVERSITY OF LONDON.

Lectures.

FOUR lectures on cardiology will be given at University College Hospital Medical School by Dr. John Hay, F.R.C.P., Professor of Medicine in the University of Liverpool, on Thursday, June 11th, Friday, June 12th, Thursday, June 18th, and Friday, June 19th, at 5 p.m. on each day. Professor T. R. Elliott, C.B.E., D.S.O., F.R.S., will take the chair at the first lecture. Admission is free without ticket.

Three lectures on blood and circulation from the standpoint of physical chemistry will be given at University College, Gower Street, W.C.1, by Professor L. J. Henderson, Professor of Biological Chemistry in Harvard University, on Wednesday, Thursday, and Friday, June 10th, 11th, and 12th, at 5.30 p.m. on each day. Professor A. V. Hill, F.R.S., will take the chair at the first lecture. Admission is free without ticket.

The Services.

THE following honorary appointments to H.M. the King are announced:

To be Honorary Physician.

Indian Military Forces: Colonel A. A. Gibbs, I.M.S., vice Major-General J. Jackson, I.M.S., retired.

To be Honorary Surgeons.

Colonel E. C. Montgomery-Smith, C.M.G., D.S.O., T.D., vice Colonel F. Kelly, C.B.E., T.D., retired.

Indian Military Forces: Colonel E. L. Perry, I.M.S., vice Colonel F. Wall, I.M.S., retired.

DEATHS IN THE SERVICES.

Lieut.-Colonel Charles Henry Bennett, Madras Medical Service (ret.), died on January 28th, aged 71. He was the son of the Rev. T. G. Bennett of Baltinadee, Bandon, co. Cork; he was educated at Queen's College, Cork, and graduated M.D. and M.Ch. in 1876. He entered the Indian Medical Service as surgeon on October 1st, 1877, became surgeon lieutenant-colonel after twenty years' service, and retired on February 11th, 1908. He served in the Afghan war in 1879, receiving the medal.

Medical News.

THE Fellowship of Medicine announces that Sir Thomas Horder will give a lecture on June 9th, at 5.30 p.m., at No. 1, Wimpole Street, on "Some cases of fever without physical signs." Three courses continue during the month—namely, in dermatology at the St. John's Hospital, in venereal diseases at the London Lock Hospital, and in tropical diseases at the London School of Hygiene and Tropical Medicine. From June 8th to 27th will be held a course in gynaecology at the Chelsea Hospital for Women. The Victoria Park Hospital will hold a fortnight's course dealing with diseases of the heart and lungs, from June 8th to 20th. From June 22nd to July 4th an intensive course has been arranged by the London Temperance Hospital in general medicine, surgery, and the specialties. In July there will be courses in cardiology at the National Heart Hospital, in diseases of children at the Queen's Hospital, in neurology at the West End Hospital for Nervous Diseases, and in urology at St. Peter's Hospital for Stone. Further information about these courses may be obtained from the Secretary of the Fellowship of Medicine, No. 1, Wimpole Street, W.1.

A LECTURE on the sources of the fruit and vegetable supply of London will be given by Sir Daniel Hall, K.C.B., F.R.S., in the Chelsea Physic Garden, Swan Walk, Chelsea, on Thursday, June 11th. The gardens will be open to inspection at 4.30 p.m., and the lecture will be given at 5.15, with Sir William J. Collins, K.C.V.O., M.D., Chairman of the Chadwick Trustees, in the chair.

DR. W. E. THOMAS of Ystrad-Rhondda is to be the guest of the County of Glamorgan Panel Committee, of which he is chairman, at a banquet at the Royal Hotel, Cardiff, when he will be presented by the medical practitioners of the county with his portrait in oils in recognition of his many services to the profession.

DR. G. F. BUCHAN, M.O.H. Willesden, has been elected President of the Society of Medical Officers of Health for the session 1925–26. He will take office in October next.

THE Board of Education has published a list of certified schools, recognized institutions for the training of blind, deaf, and physically defective students, and of the nursery schools in England and Wales. Particulars relating to the average attendance at each of the schools in the year 1923–24 are included, and the addresses of schools are shown in every case when not self-evident. The list may be obtained from H.M. Stationery Office, Adastral House, Kingsway, W.C.2, price 1s., postage 1d.

THE new buildings of the University of Bristol will be opened by H.M. the King, accompanied by the Queen, on Tuesday, June 9th.

HARROGATE Corporation has issued a new pamphlet, with many illustrations, dealing briefly with the advantages of the spa and the many interesting places in its neighbourhood. The handbook may be had free from the Director, Publicity Department, Royal Baths and Wells, Harrogate.

THE new maternity hospital of the Northumberland County Nursing Association's Training Centre for District Nurses at Willington Quay will be opened on Saturday, June 13th, at 2.30 p.m., by Lady Victoria Percy.

AN obituary notice of Sir Clifford Allbutt appears in the May issue of the *Norsk Magazin for Laegevidenskaben*, signed by the editor, Dr. F. G. Gade.

THE R.A.M.C. memorial scholarship and exhibition have been awarded by Cheltenham College as follows: scholarship, £50, W. Blackwood; exhibition, £40, J. Poë.

THE eleventh International Congress of Hydrology, Climatology, and Geology will be held at Brussels from October 1st to 15th.

AN executive committee for organizing medical congresses in Latin countries has recently been formed with Professor Charles Richet as president and Professors J. L. Faure, Gley, Hartmann, Roger, and Widal as vice-presidents.

UNDER the name of Journées médicales de Toulouse a medical congress will be held at Toulouse from July 11th to 14th, when the following papers will be read: microbic lysis, by Professor Bordet of Brussels; biology of gynaecological radiotherapy, by Professor Recasens of Madrid; pathogeny of so-called intestinal infections, by Professor Sanarelli of Rome; the trend and destiny of surgery, by Dr. Dartigues of Paris; treatment of cancer of the cervix, by Professor Faure of Paris; the sanitary service in occupied Germany, by Inspector-General Jacob; the bismuth treatment of syphilis, by Dr. Levaditi; the role of surgery, radium, and *x* rays in the treatment of cancer of the uterus, by Dr. Regaud of Paris; the internal functions of the lung, by Professor Roger of Paris.

Letters, Notes, and Answers.

All communications in regard to editorial business should be addressed to ***The EDITOR, British Medical Journal, British Medical Association House, Tavistock Square, W.C.1.***

ORIGINAL ARTICLES and LETTERS forwarded for publication are understood to be offered to the BRITISH MEDICAL JOURNAL alone unless the contrary be stated. Correspondents who wish notice to be taken of their communications should authenticate them with their names, not necessarily for publication.

Authors desiring REPRINTS of their articles published in the BRITISH MEDICAL JOURNAL must communicate with the Financial Secretary and Business Manager, 429, Strand, W.C.2, on receipt of proofs.

All communications with reference to ADVERTISEMENTS, as well as orders for copies of the JOURNAL, should be addressed to the Financial Secretary and Business Manager, 429, Strand, W.C.2.

The ***TELEPHONE NUMBER*** of the BRITISH MEDICAL JOURNAL is *MUSEUM 9864*. The telephone number of the British Medical Association remains, until further notice, *Gerrard 2630* (internal exchange).

The ***TELEGRAPHIC ADDRESSES*** are:

EDITOR of the BRITISH MEDICAL JOURNAL, *Aitiology Westcent, London.*

FINANCIAL SECRETARY AND BUSINESS MANAGER (Advertisements, etc.), *Articulate Westrand, London.*

MEDICAL SECRETARY, *Mediscera Westrand, London.*

The address of the Irish Office of the British Medical Association is 16, South Frederick Street, Dublin (telegrams: *Bacillus, Dublin*; telephone: 4737 Dublin), and of the Scottish Office, 6, Drumsheugh Gardens, Edinburgh (telegrams: *Associate, Edinburgh*; telephone: 4361 Central).

QUERIES AND ANSWERS.

THUNDERSTORMS.

"G" writes: In reply to "X" (May 9th, p. 908), I suggest that Mallock-Armstrong ear plugs (sound destroyers) be used and a handkerchief laid over the eyes. Thus sight and sound would be excluded. The plugs were much used during the war.

INCOME TAX.

Partnership—Motor Expenses.

"C." and "E." are in partnership, on the basis that the profits are shared in the ratio of two-thirds to one-third, but each bears his own motor expenses. "E." apparently purchased his share in January, 1924, from C., who had previously not had a partner.

*** The division of the partnership assessment should be such as to leave each partner to bear the tax applicable to his share—two-thirds or one-third—of the average profits, less the motor expenses incurred in earning that share of the profits. The method adopted by the inspector of taxes does not seem to us reasonable. He has deducted from the share of the average profits the average expenses actually incurred in the practice *by each partner respectively*. The effect as regards the junior partner is not fair, because he receives no allowance for the expenses which were incurred in the two earlier years of the three years' average by the senior partner, then acting as sole proprietor of the practice. In our opinion one-third of the expenses incurred in those years should, for the purpose of the division between the partners, be allocated to the calculation of the average expenses applicable to "E.'s" share. It may

perhaps be worth while pointing out that on the figures given the amount of the tax would be the same under either method, so that the point hardly seems to be one which particularly concerns the inspector of taxes.

Average for Assessment.

"FAIRPLAY," who has had a practice for many years, took a partner as from April, 1924, and the practice subsequently increased considerably. The inspector of taxes insists on discarding the three years' average, substituting for 1925–26 the basis of the 1924–25 receipts.

*** We know of no legal justification for this attitude—assuming, as we do, that the partner brought in no local connexion. That, as a result of the new arrangement, increased profits were earned is not of itself a justification for departing from the three years' average. The amount of profits assessable is the average amount of the profits of the practice over the three previous years.

LETTERS, NOTES, ETC.

PAPULAR RASH BEFORE ONSET OF MEASLES.

DR. DANIEL HUGHES (Bristol) states that during a severe outbreak of measles he noted in the majority of cases a papular rash on the face before the ordinary rash appeared. The papules were very small and whitish. There was no malaise and no eye symptoms, and the temperature was normal. From four to six days later the true measles rash appeared. The papular rash was so characteristic that when he saw it he could be confident that true measles would appear; he was therefore able to take all precautionary measures. The papules, which were always confined to the face, did not resemble any of the described prodromal symptoms.

SPUTUM EXAMINATION BY THE COLOUR BLIND.

DR. CONSTANCE S. STEELE (Ransom Sanatorium, Notts) writes to recommend a method of staining sputum (Schädel's modification of the Ziehl Neelsen test), so as to render tubercle bacilli visible by the colour blind. A concentrated solution of methyl violet in alcohol is prepared, and 1 part of this filtered is added to 9 parts of a 2 per cent. solution of carbolic acid in water. The film is flooded with this solution and heated till steam comes off. The process is repeated three or four times, the stain being renewed if necessary; the film should be kept well flooded with stain. The film is then rinsed in a sharp stream of water, decolorized in a 3 per cent. solution of hydrochloric acid in alcohol until the preparation is light violet, and counterstained with Bismarck brown. The tubercle bacilli appear violet on a brown background.

TESTS FOR DRUNKENNESS.

DR. A. WITHERS GREEN (Hobart, Tasmania) writes: For many of my earlier years, perhaps twenty-five out of the forty-one, in the City of London I used to be called in by the police. In extreme cases, especially women, there is little difficulty in coming to a conclusion. In doubtful cases I used to ask the inspector in charge to let me be alone with the man in his private room. My object was to let the man's brain work uninterruptedly under the alcoholic stimulant. I then found that by sitting silently, almost unconsciously to him, at his side, not in front of his eyes, with no stimulus of sound, touch, or sight, he would begin to chatter nonsense with confused ideas and articulation; walking exercises, noisy questionings, and trials in the general room of the station kept the man sufficiently awake to be useless for diagnosis. Every minute the poison is evaporating by skin and mucous membrane—often by vomit and urine as well. I used to complain that I was frequently sent for quite an hour after arrest; meanwhile, quietness, draughts of water, and perhaps some sleep had to some extent sobered the man. The question whether disease existed along with alcohol was naturally difficult of solution by the police. The letter of Dr. Graham Grant (BRITISH MEDICAL JOURNAL, February 28th, p. 427) confirms my test for drunkenness—a test which does not seem to be so generally recognized as it should be—the relaxation of the excitement tension and the quiet of undisturbed solitude revealed the truth in both his cases.

SMALL-POX AND VACCINATION ABOARD SHIP.

DR. A. A. RAIL (surgeon, s.s. *Sardinia*) writes: We sighted a Chinese junk in distress, two days out of Hong-Kong, on February 21st, 1925, at 11 a.m.; it had lost its rudder and become unmanageable; 144 Chinese were rescued. One Chinaman was crushed between the two ships and treated for a bruised shoulder in the isolation hospital. He was afterwards found to have a small-pox rash. The other room of the hospital was occupied by five Chinese with a temperature ranging from 100° to 104° F., furred tongue, shotty rash, especially thick on the face, umbilicated, present on the palate, and especially on the extremities, palms, and soles. There was not much constitutional disturbance. It was diagnosed by Dr. Barnes and myself as variola. The other 138 Chinese were placed on the poop deck and isolated. On February 22nd the number of variola patients in hospital was seven. Umbilication was more marked. Dr. Barnes and I, together with the chief officer and 32 contacts, were vaccinated. On February 23rd there were 14 new cases (one haemorrhagic), making a total of 21; all were isolated. On February 24th 28 small-pox patients and 116 contacts were removed at 3 p.m. to quarantine station at Singapore and the ship proceeded alongside, after being fumigated fore and aft. The crew (160) were all vaccinated and 15 of the passengers. We escaped any small-pox infection and arrived at Bombay safely, all the crew and passengers in good health.

A CURIOSITY OF ETYMOLOGY.

TULARAEMIA, a disease so far, save for a few cases in laboratory workers, peculiar to certain parts of the west of North America, is due to *Bacterium tularense*. This organism was discovered in 1912 by McCoy and Chapin, and shown to be the cause of a fatal epidemic among the ground squirrels in Tulare County, California; the county was so named because that region was once covered with extensive marshy beds of the reed tule, a large variety of bulrush. The disease might, therefore, by a stickler for English terminology, be termed the bulrush blood disease.

"WHAT CHIROPRACTIC REALLY IS."

Farrago from Fargo.

THE *Journal of the American Medical Association* has unearthed the following specimen of chiropractic oratory from an advertisement published in Fargo, N. Dakota:

"We chiropractors work with the subtle substance of the soul. We release the prisoned impulse, the tiny rivulet of force, that emanates from the mind and flows over the nerves to the cells and stirs them into life. We deal with the magic power that transforms common food into living, loving, thinking clay; that robes the earth with beauty, and hues and scents the flowers with the glory of the air.

"In the dim, dark, distant long ago, when the sun first bowed to the morning star, this power spoke and there was life; it quickened the slime of the sea and the dust of the earth and drove the cell to union with its fellows in countless living forms. Through aeons of time it finned the fish and winged the bird and fanged the beast. Endlessly it worked, evolving its forms until it produced the crowning glory of them all. With tireless energy it blows the bubble of each individual life and then silently, relentlessly dissolves the form, and absorbs the spirit into itself again.

"And yet you ask, 'Can Chiropractic cure appendicitis or the "flu"?' Have you more faith in a knife or a spoonful of medicine than in the power that animates the living world?"

SLEEPLESSNESS.

DR. A. S. DUTTON (London, N.1) writes: In regard to "Scot's" remarks on sleeplessness in the JOURNAL of May 30th (p. 1026), it seems to be questionable whether he takes an entirely accurate view as to what may be called insomnia—at any rate, in his own case. A man between 40 and 50 who sleeps soundly from 10.30 p.m. to 4 a.m.—that is, five and a half hours—has had a fairly good spell of oblivion. What "Scot" appears to need is a somewhat later hour for retiring, say 11.30 p.m., and if he then sleeps until about 5 a.m. there can be little occasion for dissatisfaction, especially when this is followed by some peaceful dozing. While six hours' sleep has been said to be sufficient for a man, some of those concerning whom material has been writ large in lines of remembrances were apparently content to rise soon after 5 a.m. without experiencing harmful effects from the habit.

DR. W. L. DICKSON (Brighton) writes: The letter signed "Scot" on the subject of sleeplessness interests me greatly, as I was afflicted with a precisely similar condition four years ago. By a long course of treatment I think I may say I am completely cured, but only recently did I feel myself out of the wood, as, at intervals of a month or so, the trouble returned for one night at a time. I believe the condition to be due to pressure of the splenic colon on the solar plexus, due to flatus or collection of contents in that part of the gut. I imagined myself free from indigestion, but found that it was really the cause, though quite a different kind from the usual stomach indigestion. If "Scot" will communicate with me I will give him a full history of my case and my means of curing it.

COFFEE AND SLEEPLESSNESS.

LIEUT.-COLONEL C. H. REINHOLD, I.M.S., writes: From personal experience I am persuaded that insomnia attributed to black coffee only results when the cheaper brands of coffee are used, in which a large admixture of chicory or other impurity fortifies the flavour. I have found that the coffee offered at the houses of some of my friends and relations, if taken black leads to two or three hours' sleeplessness on going to bed, while the after-dinner coffee in the houses of the more epicurean, or at West End clubs and public dinners, has not had this effect. It may be suggested that, on the latter occasions, a sufficient dose of alcohol is taken to counteract this tendency, but I do not think this argument applies to the case in question. I should like to suggest that it is the impurities in post-prandial "black coffee" that produce insomnia, and that the berry *per se* has been unjustly blamed. Perhaps some of the pundits in dietetics have already settled this point, in literature that has not been available to me.

VACANCIES.

NOTIFICATIONS of offices vacant in universities, medical colleges, and of vacant resident and other appointments at hospitals, will be found at pages 33, 36, 37, and 38 of our advertisement columns, and advertisements as to partnerships, assistantships, and locumtenencies at pages 34 and 35.

A short summary of vacant posts notified in the advertisement columns appears in the *Supplement* at page 251.